THE

HORTICULTURIST.

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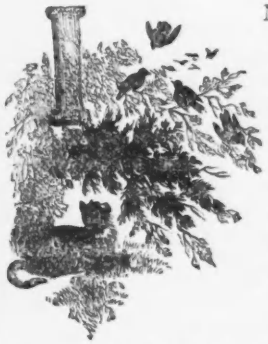
Hints on Grape Culture.—XII.



IN the progress of these grape articles, there will be occasion, especially when treating of training the vine, to make use of technical terms, which may not be understood by the novice. Different individuals sometimes use different terms to denote one and the same thing. It would be desirable to establish a degree of uniformity in this respect, and this we shall attempt; at least, we shall endeavor to be consistent in the use of terms. Our object, at present, will be to describe briefly the different parts of the vine, so far as may be necessary to understand the meaning of terms which will be used in giving directions for training.

The vine is a climbing plant. It will run on the ground till it finds a tree or some other object of support, which it will ascend, and cling to by its tendrils. The vine may be divided primarily into two parts: the *roots*, which grow beneath the surface, and the *stem* or trunk, with its branches, which grows above the surface. The point of division between the root and the stem is called the *neck*, collar, etc.; we shall adopt the first term, and use it to denote all that part of the vine between the surface of the ground and the point where the roots begin to radiate. The point where the roots begin to radiate we shall term the *base* of the vine, as being the point of support. The part of the vine immediately under the surface is by some called the *foot*, a term which we shall not have occasion to use. The roots proceeding from the foot are by some called *foot*

roots, another term which we shall not find occasion to use. The roots proceeding from the foot roots are called *side roots*, which, again, we shall not use. Then there are *surface roots*, which are roots growing near the surface. Others, again, call all the large roots *tap roots*. The tap root proper is the large central root which descends perpendicularly into the ground; it is wanting in the propagated vine. Roots are also divided into *principal* and *lateral*, and these are good enough terms. We might fill pages with descriptions of roots; but our object is merely to define a few of the leading terms as applied to the vine. We propose to divide the roots into simply two kinds: the large principal roots, which we shall call *primary roots;* and the lateral or fibrous roots, which we shall call *secondary roots*. The former are chiefly concerned in forming a support for the vine, or fixing it firmly in the soil; the latter are chiefly concerned in furnishing it nutriment or food. The term *surface roots* we shall use to denote such of the secondary roots as may be within an inch or two of the surface. They will seldom be so near as this in well-prepared ground, except as the result of mulching or too much shade, or where the primary roots have been brought up by careless plowing.

Having disposed of that portion of the vine beneath the surface, let us proceed to that which is above. That part of the vine between the surface of the ground and the point where it begins to branch, be it higher or lower, we shall call the *trunk;* the point where it begins to branch will be designated the *head;* it is sometimes called the *crown*. There will sometimes be two or more heads to a vine. The branches proceeding from the head, when these are to be *permanent*, will be called *arms*, and the arms will be designated according to their form, direction, etc.; for example, *horizontal arms*, or arms running at right angles with the body and parallel with the surface of the ground. *Wood* we shall divide into *green wood*, *fruit wood*, *annual wood*, *biennial wood*, and *old wood*, this division being sufficient for all practical purposes. *Green wood* is the growing or current year's wood, and produces the fruit, when fruit is produced at all, which is not always the case; *fruit wood* is green wood that produces fruit, sometimes called *bearing wood; annual wood* is wood that grew and ripened last year, and produces the green or fruit wood of the current year; *biennial wood* is that which grew and ripened two years ago. All back of this may well be called *old wood*. The wood is furnished with two barks, an inner and outer bark. The inner bark is green and soft, and is closely united to the wood, adhering firmly. The outer bark is dry, being composed of woody fiber, the fibers running longitudinally, which enables the bark to be peeled off readily in long strips; in fact, it peels off of itself when a couple of years old, sometimes causing no little uneasiness in the minds of novices. The color of the wood varies from a light to a very dark brown. The color of the wood may be said to be associated in some sense with the color of the fruit, dark-colored wood usually producing dark-colored fruit. These remarks apply to the annual wood. We may remark here that the term

water shoots denotes shoots proceeding from dormant eyes on the trunk, head, old arms, etc.; but chiefly on the lower part of the first; they are unproductive, except in rare cases. The terms *rod*, *cane*, etc., are convertible, meaning one and the same thing, and are applied to either green or annual wood, but usually and most properly to the latter. A cane is either *long* or *short*, (say from one foot to six feet long,) according to the system of training adopted.

The remaining parts of the vine will be described in our next, accompanied by an engraving illustrating the subject, and quite necessary to make it fully understood. This engraving we had hoped would be finished in time for our present issue.

LANDSCAPE ADORNMENT.—NO. XX. "ENTRANCES."

BY GEO. E. WOODWARD,

Civil Engineer and Architect, No. 29 Broadway, New York.

"EVERY place," says Mr. Loudon, "may be considered as producing three leading impressions on the mind of a stranger, viz.: that called forth by the entrance lodge, gates, and the portion of the approach which is seen through the latter; that which is produced by the first good view of the house obtained from the approach-road; and that which is obtained from the drawing-room windows, after entering the house."

These remarks were not considered strictly applicable to all places, as natural conditions and situations would very materially alter the manner of treatment. It would be desirable, in the management of large country estates, not to see the house immediately on entering the grounds, but have it come in sight after driving a moderate distance from the entrance. It is better to treat the view of the entrance and the view of the house apart from each other, and so manage the former that it becomes an index to the more important features within. We can call to mind a number of very fine places, not above fifteen acres in extent, in which these three leading impressions have been successfully carried out; or, rather, the attention is not drawn from the first to the second by having both coming into view at once.

The entrance gate, lodge, and accessories, are in many cases the only indications of a finished country seat; and but for something striking of this description, one might drive along almost unmindful of its existence, it being a frequent occurrence to plant out the highway in such a manner that no view of the grounds can be obtained from it.

An entrance should be spacious and attractive, and so planned as to admit of a display in planting both outside and inside the inclosure. If properly executed it forms one of the most agreeable attractions that arrest the eye of the

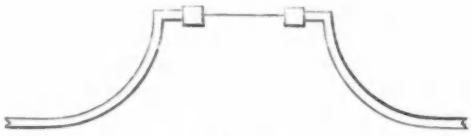
passing traveller or the visitor who enters the premises. A spacious foreground indicates importance, and is an embellishment that may be adopted to good advantage where the wish is to convey an impression of magnitude or extent; care should be taken, however, to keep all improvements within the bounds of a reasonable proportion, and to make use of none but what would be appropriate to all other surroundings.

A very common defect, not always to be avoided, is having an ascending grade from the highway; it is far better to fix upon a level space, and let it extend at least thirty feet each side of the gate; it is easier for horses to stand while the gate is being opened, and they have less difficulty in starting than they would have on an up grade.

The position of the gate should be at least thirty feet from the customary travelled track of the public road, so that a carriage may turn out and admit other vehicles to pass while the gate is being opened.

As a general suggestion, it is best that the approach road should leave the public road at right angles, and take its direction at the most suitable point beyond forty feet from the gate; but as no general rule is applicable to all cases, we find it necessary to depart from this in many instances, and particularly so when the ground rises rapidly. We have repeatedly found it advisable, in practice, to enter obliquely, and to run the approach road nearly parallel with the highway for a considerable distance, and by so doing attain the elevation on which the house was situated by an easy and regular gradient. This, we know, is breaking down a rule that every novice believes has no exception; but experience will teach that it is the principles of landscape gardening, and not rules, that are applicable in all situations. Cases frequently occur in which impracticable obstacles between the best position for the entrance and the house render it absolutely necessary to override all so-called rules. We have had occasion to disregard many of them in practice. A bend in the public road, an oblique junction of two roads, or a corner, are quite frequently found to be very suitable places for an entrance.

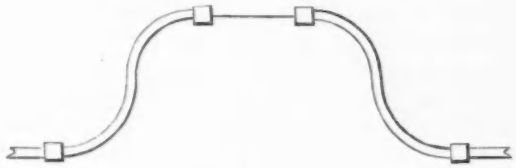
The accompanying plans are among the best that we have seen, and may be altered to suit almost every taste. A gate set in the straight line of the fence, without any foreground, would be the most simple. Plan No. 1 gives a foreground



No. 1.

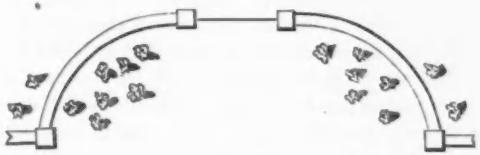
without using any more land than is necessary for the road, but does not admit

of any exterior planting. No. 2 has both the convex and concave curve, and admits of more variety in embellishment. No. 3 is the most common and the



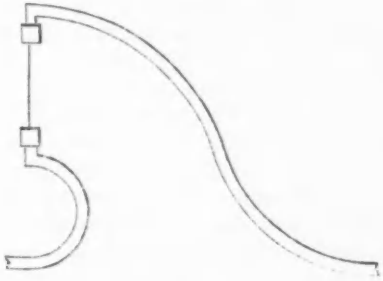
No. 2.

least contracted of the three symmetrical designs, and is preferable to Nos. 1 and 2. An opportunity is here afforded for a display in planting.



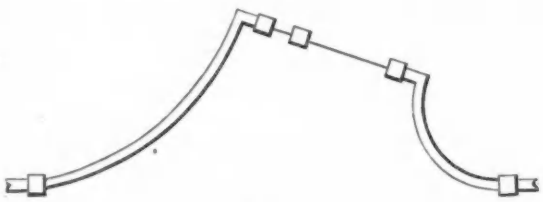
No. 3.

In either of these three, changes can be made by increasing the width and depth of foreground, or by making the curves flatter or sharper. If a small gate is wanted, it can be introduced without altering the general plan.



No. 4.

No. 4 is sometimes used when the situation of the ground compels an abrupt turn; it also prevents an inspection of the premises from passers-by.



No. 5.

No. 5 is a modification of No. 1, more spacious, and applicable where the travel is mostly in one direction, as towards a village or dépôt.

All the accessories of an entrance, as the lodge, the foreground, the road, etc., should be treated as an independent feature; it should, in fact, be a little landscape of its own, with its embowered cottage, its lawn, its shrubbery, and its wood, which last, as Sir Henry Steuart says, "surmounts all obstacles and cures all deformities. Wood is so beautiful in itself that it throws its own delightful character over every thing which it touches. If your ground be high, it will give it shelter; if tame and flat, variety and elevation; and if it be irregular and deformed, it will oftentimes convert those seeming obstructions in to playful intricacy and unexpected beauty."

BROAD-LEAVED EVERGREENS—THEIR WINTER PROTECTION.

BY "PROFESSIONAL."

Broad-leaved Evergreens, or others than Coniferæ, are still the great want of ornamental gardening in the Northern and Middle States. And although, during the past few years, numbers of experimental trials have been made to test the hardihood both of old favorites and newly introduced plants, yet it can not be said that the results have proved very satisfactory; and excepting the Pinus tribe, few will be found added to our collections as perfectly hardy and fitted to endure the severity of our winters without protection. It is not enough that a plant holds its foliage and does tolerably well when planted in the shelter of a thick wood, or surrounded with a dense mass of Spruces or other hardy evergreens; it should be able to stand alone, and in such positions as are required, where it can be seen and admired in all its beauty.

When the Deodar Cedar was first introduced, hopes were raised of having a splendid addition to our hardy evergreens; but the test of a few winters has nearly destroyed them all, and north of Philadelphia, I might almost say of Balti-

more, it is entirely neglected as unsuited to the climate. True, in favorable winters, and we sometimes have several together, it flourishes pretty well, losing, perhaps, only its leaves; but then comes one of extra severity, and the plant is either entirely killed, or so permanently injured as to become an eyesore wherever seen. The same might be said also of the Cryptomeria, the Redwood, (Taxodium sempervirens,) Libocedrus decurrens, L. Chiliensis, Cunninghamia Sinensis, Araucaria imbricata, Cupressus funebris, C. torulosa, Podocarpus coriacea, Euonymus Japonicus, E. fimbriatus, Ligustrum Japonicum, Ilex cornuta, together with a large lot of such old favorites as the Portugal Laurel, Sweet Bay, Laurustinus, Aucuba Japonica, Magnolia grandiflora, Olea fragrans, English Hollies, etc. Some of these are seen occasionally planted out, and protected in the winter by coverings of straw, mats, boxes, or barrels; but at best these only partially effect the purpose, for in the spring, when uncovered, they are usually sadly shorn of their beauty, and present a sorry picture of dead leaves and injured shoots. An objection to such coverings, besides the trouble, more particularly when the plants attain any considerable size, is, they give a lawn or garden a bald appearance, worse even than deciduous shrubs.

Now, then, we can not afford to discard these altogether, and they take up too much room in an ordinary green-house, which can be better filled with Camellias, Daphnes, Acacias, and other choice winter-flowering plants.

The simplest and most effectual plan for preserving them in health during the winter is sheltering them in underground sheds, such as are commonly used by nurserymen for storing young stocks or newly imported trees in the winter season. A shed of this kind is easily constructed, and at a small cost, and when properly done will effectually keep out frost without the aid of fire-heat. Choose a spot that can be readily drained if necessary, and excavate to the depth of, say, five or six feet, and of a width of about fifteen feet; build up the sides with brick laid in cement, (or, if the sub-soil is gravel or sand, locust posts and plank can be used,) to the height of a foot above the surrounding surface, leaving a place for an entrance at one end. On this wall construct a roof, a span, resting on a plate, with spaces for sashes on either side. A shed thirty feet in length would require five sashes, three on one side and two intermediate on the other. The eaves should project sufficiently over to carry from the wall all water falling on the roof. Shutters for the sashes should be provided for severe weather. The roof should be ceiled inside with tongue-and-grooved boards, and all thoroughly painted.

Grown in large pots or tubs, your plants can be stored in the winter season, and in the spring readily removed to the lawn or terrace. If grown in pots, when removed to the garden plunging to the rims in the earth will be found advantageous. A number of plants, however, will be found to require neither pots nor tubs, as their yearly removal will cause them to have perfectly matted balls of fibres, which can be preserved entire; and when removed to the shed and covered with earth, will be found fresh and healthy in the spring. The number of plants

that can be preserved in a house of this kind is surprising; and not the least of its recommendations is its economy, as it requires no expense for fuel, and trouble attending fires. Watering will occasionally be required, and on fine days air should be given.

In addition to the plants already named, the following would succeed admirably, viz.: Agapanthus, Berberis Fortunii, Mahonia Bealii, Illiciums, Agaves, Pittosporum, Pomegranates, Escallonias, Myrtles, Tritomas, Hydrangeas, Erithrynas, Brugmansias, Cape Jasmins, Oleanders, Figs, etc.

[The above, from an enthusiastic lover of evergreens, possesses a peculiar value, and will be read with interest by every one who has a lawn. A shed, such as he recommends, ought to be an accessory to every man's place; besides the plants named by "Professional," there are scores of others that might find a place there. The suggestion is a valuable one, and would probably carry greater weight with it were we at liberty to give "Professional's" name. Suffice it to say, that he is known and appreciated all over the country as one of our most accomplished horticulturists, and we have to regret that we can not bring him out oftener.—Ed.]

MOSS A VERY VALUABLE ADDITION TO THE SOIL FOR POTTING PLANTS.

BY HORTICOLA.

Several years ago I read, if I mistake not, in a German magazine for Horticulture, that dried and pulverized moss from trees, and the large roots of trees exposed to the action of the atmosphere, were a very useful addition to almost all kinds of soil used for potting plants. When the potting season arrived I did not think of it, and it was not until last spring that I tried it as an experiment. The confidence I had in the advice was so much rewarded by surprising results, that from that time I have hardly ever potted a plant without the addition of some dried and pulverized moss.

As soon as the moss is gathered, I dry it in an oven till it is easily reduced to a coarse kind of powder by rubbing it with the hands. Then I rub it through a common coal-sieve. Of the coarse powder obtained by this process, I add more or less to the soil. As it makes the soil porous and light, fertilizing it in a high degree, it is impossible to determine the proportion in general; for this depends upon the nature of the soil, as well as on the plant to be potted. Frequently I take a good handful for a seven-inch pot. It never sours the soil; consequently there is no danger in taking too much.

All my plants, except the Cactæ, are at present growing in soil mixed with moss, and I must confess that I never before saw them as vigorous and healthy.

Amaryllides, Lilia, Gloxiniæ, Passifloræ, and a large number of other perennials, are thriving in soil so prepared, as well as annuals; *i. e.*, Reseda odorata and Linum grandiflorum rubrum, of which I have some specimens grown in the form of little trees, covered with blossoms and buds. They bid fair to be in bloom during the whole winter.

Moss may be mixed at pleasure with heavy and light soils, improving them both. Any one that will try the addition of moss to the soil will very soon feel induced to adopt it as a general rule.

[And we have no doubt at all that they will thank you for calling their attention to it. The moss acts both mechanically and chemically, and we should judge it to be a good addition to any soil. Charcoal and moss make an excellent compost to strike cuttings in.—Ed.]

CRAFT MYSTERIES.

BY BROOKLYN.

It is rather late in the day to attempt to preserve the above, and the disposition to do so manifested by some goes to prove what I have before ventured to hint, viz., that the gardeners, as a body, are much behind the age, and in need of enlightenment.

The discussions of our Society meetings have taken what I think a very desirable, interesting, and practical turn; one much calculated to benefit both the gardeners and the public. Part of the former complain that some of their number are telling all they know; (more, perhaps, than they—the other ones—do;) that it is not right; it will injure business; their occupation will be gone when every body understands gardening as well as they do. I think this a mistake, and am glad to see that the more enlightened and liberal-minded of their body agree with me. Any one following a pursuit as a business, if competent thereto, has advantages over one occasionally dabbling in it, that defy competition. I think I could make a packing-box as well as any carpenter, but, supposing my time to be worth no more than his, it would cost me double to do so. I could kill and dress a pig as well as any butcher, yet prefer to buy him in the shape of bacon. These men seem to want to treat the public like a lot of children out for a holiday. "You may come and look at our pretty things, but you must be good boys and girls, and not ask any questions." They justly lay themselves open to the suspicion that they are afraid the pupils may get to know more than their masters; they fear they should find out how little, rather than how much, they know. The subject of Horticulture is so exten-

sive that none need feel ashamed to confess ignorance when it is the case; if a man thoroughly understands the particular branch chance or taste has thrown him into, it is all that can be expected of him.

Occasionally discoveries may be made which it is to the interest of the person, for a time at least, to keep to himself; but nothing has been, or is likely to be elicited at these meetings, which ordinarily intelligent persons could not learn if they felt interested enough to study the matter, and read a little.

The necessity that exists for proper structures and constant attention is a sufficient guarantee against enthusiastic amateurs raising all the plants, and spoiling business. Those who may attempt it without the proper appliances, and who, as they will, give it up, will be less likely to grumble at prices of plants, knowing, as they do, the trouble and expense of producing them.

Finally, to these non-progressive gentlemen I would say, do not be afraid of your customers leaving you; the more they know the more they will want to know; the more they will spend with you, and the more they will respect your knowledge, if you have it. If you find they are getting ahead of you, set to work and make use of the advantages you possess to perfect yourself in your profession. If the saying, that a man is never too old to learn, is true at all, it certainly is in gardening.

Remember, also, that silence does not always mark wisdom; and if you do not possess "the gift of the gab" yourselves, do not carp at your brothers of the guild who do.

[Brooklyn, it will be seen, is after the gardeners again. If his object is to bring them out, he will doubtless succeed, for he has put them on their defence. We, of course, think it is a great mistake to suppose that the spread of horticultural knowledge will ruin trade, otherwise we should cease at once from editing this journal; for we would not wittingly assume the grave responsibility of ruining our fellow-men. No fact in economics is better established than that a thing is used just in proportion as its uses are understood. There is nothing in horticulture or gardening exceptional to this. The more people understand how to grow plants, the more of them they will buy. They are not like toys that may be preserved in a case to look at, but objects that can only be kept with a knowledge how to keep them; hence, without this knowledge they would become useless, and cease to be sought for. We think it may be stated as an axiom, that the knowledge of plants and the sale of them will go on *pari passu;* or, to put it mathematically, that the sale of plants will increase as the squares of their knowledge! There, "Brooklyn," how does that suit your mathematical head? A gardener may, if it suits him, keep to himself his peculiar mode of propagating plants; but if he sells them, by the very act he assumes the moral responsibility of telling the purchaser how to take care of them; and the more gardeners spread

knowledge in this way, the more plants will be sold. We trust they will all regard this matter in its true light, and unite together in spreading the knowledge of plants through all the land.—Ed.]

MILDEW ON ROSES.—BUDDING ON MANETTI.

BY HAMMOCK PARK.

This fungus appears likely to become as destructive to the Rose (if indeed it is not so already) as it is among the vines. A few years ago it was confined to a few plants, or to some one or two varieties, but latterly it has attacked most of our roses during July, August, and September, and materially injured the autumnal bloom. Some kinds are more subject to it than others, and the Hybrid Perpetuals more so than any other class; but latterly, even the Bourbons, Teas, and Chinas, have taken it. Flour of sulphur is the best remedy with which I am acquainted. I have used the Gishurst Compound and Pages' Composition, but I was not very successful with either. I always found the sulphur to have the best effect; and this must be applied as soon as the disease makes its appearance, and persevered with afterward, or it will have little effect. It should be dusted on when the foliage is wet; early in the morning, when the plants are moist with dew, is about the best time for the application. If the sulphur gets washed off by rain, or blown away by the wind, it should be looked after, and the sulphur reapplied the next morning.

If the plants are in pots, the most effective way to apply the sulphur is this: take the plant and immerse it in a pail of water till every part is thoroughly wet; then hold it upside down, and dust on the sulphur. The sulphur being put on the under side of the leaves, it will not make any *show*, and will remain on longer without being washed off, and will be more effective in killing the mildew. Before commencing to dust on the sulphur, lay down two or three newspapers to catch the sulphur that would otherwise be wasted. It can be readily gathered again when dry.

I have used it on Chrysanthemums in the same way, and on grape-vines in pots. It looks much neater when applied in this way than when applied to the upper side of the leaf.

How to bud the Rose and root the Manetti stock the same season.—Take Manetti stocks that have been growing two years or more in the same place, when they have made shoots three or four feet long, which will be about the first of August; they are then ready for budding. Bud them about two and a half or three feet above the ground. Be careful to cut all the buds off the Manetti stock for about six inches below where you insert the bud; this is to prevent suckers hereafter. When the buds have taken and commence to swell, and you are going over them

to loosen the bass, is the time to layer the Manetti stock. The buds having been cut off the Manetti below the *rose* bud, you will then proceed to layer the stock in the usual way of layering, suiting your own fancy as to the height the stock should be; but I always found four inches of stock to be quite sufficient, so that, when they are transplanted finally, the whole of the Manetti will be below the surface of the ground. If they are budded and layered early in the season, they will strike roots finely by the fall, when they should be taken up and hilled in a cold frame till spring, then to be planted out. When treated in this way they make very superior plants. This system is extensively practiced in the largest rose-growing establishment in western Pennsylvania. When you layer them, cut the top off the Manetti above the bud; this will encourage the bud to start; but if they are budded late in the season they will lay dormant till the following spring.

[Sulphur is generally regarded as a specific for mildew in its ordinary manifestations; it sometimes fails in consequence of its application being too long delayed, or in cases of great virulence, as was the fact with the oidium in Madeira, Portugal, and elsewhere. The Gishurst Compound we suppose to be chiefly composed of what is called whale oil soap and sulphur; hence its efficacy in destroying mildew. The testimony in its favor is pretty uniform, and so it is, too, in regard to its high price. Simple sulphur, applied as suggested by Hammock Park, is neither an expensive nor a very troublesome application. It is important, however, that the sulphur, or the exhalations from it, should come in contact with the disease, which usually first makes it appearance on the under side of the leaves; failure to reap the full benefit of sulphur may sometimes be traced to overlooking this fact. The method of budding on the Manetti stock, described by Hammock Park, is a very expeditious one, and will be welcomed by such of our readers as grow Roses in that way. We have never been partial to budded Roses of any kind, and the winter of 1860–1 has brought thousands to our way of thinking. We do not wish to be understood as condemning them, but as preferring Roses on their own roots. We should like Hammock Park to give our readers some equally easy mode of propagating Roses from cuttings.—Ed.

COLD VINERIES.

BY A. HUIDEKOPER, MEADVILLE, PENNSYLVANIA.

Since the introduction more prominently before the public of the Delaware grape, I notice several cultivators are beginning to make calculations of the relative expense of in and out-door culture of the vine, and to date, from the advent of a good hardy variety, the decline and fall of those rapidly multiplying institutions, cold graperies.

After fifteen years' experience in both ways of producing grapes, I think I am

not a very rash prophet when I predict, through your pages, that in coming years ten persons will adopt cold vineries to one that abandons the use of them after having fairly tested their advantages. That such institutions will creep very slowly into Kelly's Island, or any other locality so highly favored in point of climate, is freely admitted; but as governmental securities in the stock market will always command higher rates than individual obligations, in proportion to the interest they give, on account of their greater reliability, so vineries will always have a great advantage over out-door culture on account of the *certainty* of the crop. It is an easy thing (I find it a *very easy* thing) to protect out-door vines from being winter killed and all that, but it is not very easy when a vine is in full flower and leaf to protect it from an untimely frost; and it is at such a time, when his neighbors are mourning over "blighted promises," that the owner of a vinery takes up his scissors to thin out his superabundant crop, with a proper appreciation of the value of glass. I trust no enthusiastic grower of the Concord, or Diana, or Delaware will think me ignorant of the specialty which he trumpets. I have seen them all in their perfection. I have *got* them all, and forty other varieties, local celebrities besides, and in the possession of them, have felt induced to double the size of my grapery. If the subject is not too trite for your pages, I propose to suggest the plan of a plain, inexpensive grapery, with some of its advantages.

The size I would make about 40 by 22 feet. This is large enough for any family use, and will readily yield from 800 to 1,000 clusters of grapes per year. The cost would vary according to the price of materials; here, it is about ten dollars a foot, or $400 for the building when entirely completed. The roof consists of 56 sashes, 8 by 10 double-thickness glass, each sash containing 24 panes; the upper sash laps over the lower one, and the whole are nailed down without pulleys or slides, ventilation being otherwise provided for; sashes one light high run along the sides of the building between the studding; a window and door occupy one end of the building, two or four windows the other. The windows are hinged and open outwards, and are fastened, when either open or shut, with a button. A square opening in each gable, with the end windows, gives sufficient ventilation. The windows and these openings are provided with fine wire gauze to exclude insects. The openings also have a board covering fixed inside in a slide, and with a handle attached to raise or lower the board at pleasure, the handle being perforated at small intervals with holes to slip over a staple to confine at the elevation desired. The ridge pole should be about 12 feet high, the sides of the building about 4 feet. The advantage of elevating the latter thus is, that it gives a large internal atmosphere, not subject to sudden change of temperature. It also at once elevates the vines out of the way. The sash bars should be at least 1½ inches deep by 1 inch wide, with a light cross bar screwed on the under side midway to prevent springing or settling of the frame. Tin eave troughs should be provided on both sides, to prevent saturation of the

border when not desirable, and to conduct the water by a pipe to a large tank or open vessel inside, where it is always at hand, and becomes attempered for use. When the water is not wanted inside, the pipe can be detached. The outside of the building may be matched and planed, and neatly painted; the inside lined with matched but rough boards, and whitewashed. No filling in is necessary, and tan is specially objectionable, as it soon dry rots the framework.

A strong wire should be fastened along each side of the building, and from these, at intervals of two feet, wires pass through a staple in the ridge pole. At the ends of the buildings staples can be placed 15 inches below the glass, and strong wires be run from them across the building, passing through some wooden supports depended from the rafters. Great additional firmness is also obtained by some fine wire ligatures around the point where the upright and horizontal wires cross each other. The rafters should be in size about 3 by 5 inches, and run from the plate to the ridge pole, with strips nailed on the side to support the sashes, which, in consequence of the lap, do not rest on the same plane. The whole ingenuity of the builder should be taxed to prevent leaks or drip; and if the aquaria cement, lately advertised, will do this, and stick where putty is so prone to fly off, we shall hereafter say a good word for it.

A building of the size given would require 8 by 10 oak sills resting on stone pillars, and one cross sill in the centre, with a support upon it to the ridge pole, and the whole should be suitably braced.

Walks.—Four feet from the sides of the vinery ladder walks should be laid down the whole length of it, except the end border and cross walks, connecting these at convenient distances. These walks may be made of scantling with strips of $1\frac{1}{2}$ inch stuff, sawed 4 inches wide and nailed on at $\frac{3}{4}$ inch intervals; this admits air and sufficient light for the roots, and prevents the treading down of the border. These walks should be about 3 feet wide, and I trust I shall not be considered extravagant when I say, that I consider such a walk in a neat, well ventilated, solar warmed sanctuary, free from the chill of vernal and autumnal winds, worth to any person of sedentary occupation the whole cost of the structure, if not a single cluster of grapes should ever be grown in it. A friend of mine, on going to Congress some years ago, threw away his cigars, because, as he said, his boarding-house was so neat in all its departments that he could not bear to desecrate them, and that a habit, so exclusive in its viciousness, had better be relinquished. Commending the conclusion he arrived at as worthy of universal adoption, I have only to add, that if a man will smoke after dinner, he will find his grapery a very good place for the indulgence.

Heating, &c.—I have adopted a plan of my own for warming the vinery, which I think is an improvement on a simple stove. It consists in having a brick casing around the iron, some two inches from it, and covered with flat stone, leaving a small air chamber above the stove. Openings are left below for the entrance of the cold air, and beneath the stove in the upper course of brick are similar open-

ings for the exit of the heated air. These upper ones I have had made to open obliquely, those on the east pointing southeast, those on the south southwest, on the west northwest, etc. The advantage of this arrangement I take to be, that the bricks prevent a hot stove from doing any injury to the vines; that the heated air is thrown off from the chamber with considerable projectile force in a rotary and spiral manner, and thus having a tendency to intermix the entire atmosphere of the vinery, and prevent the existence any where of cold or dead air.

Vines.—After some educational experiments in overtasking the capacities of his vinery with other plants or too many vines, the cultivator will probably come to the conclusion that seven vines on a side are enough for a 40 foot grapery, and that it is not best to have any interior vines. A small central portion may, however, be divided into concrete compartments two feet deep, and as many square, where dwarfed vines may be fruited to test a new variety or seedling, or to root freely for transplanting. The brick compartments paved with concrete will prevent these vines from interfering with those in the border, and facilitate a change of soil when needed. Such compartments will contain three or four times as much earth as is contained in the ordinary crocks, and the vines will need less care.

In one half of a 40 feet vinery (the other part being new) I ripened this year over 500 bunches of grapes, two Black Hamburgh vines producing 75 clusters each, which matured perfectly. The first fruit cut was on the 15th of August, and some still on hand laid away on paper in a cool room are plump and fresh, with an occasional berry passing into the raisin state. This shows the advantage of glass; a *well-ripened*, good out of door grape being usually obtainable in the northern states not before October. The past season has opened a new era in grape growing, well-ripened Catawbas being abundant in all our city markets. A few more years, and we shall have still better varieties equally cheap and plentiful. People seem to dread laying down their vines, from not knowing how flexible they are, and how easily it may be done. A vine that will occupy two rods on a trellis or wood-house in width, (like a lady's crinoline,) can be folded up, and need not occupy more than two feet of space when arranged for its winter covering. Few vines are so stiff that they may not be bent close to the earth without injury: some notched stakes made of the staves of an old keg, a little earth, and a few leaves, (not too many, or they will heat,) and the whole thing is done. The trimming being done, as it should be, beforehand, twenty minutes of labor will dispose of a very large vine for the winter; if the trunk crowns up a little at the base, a wheel-barrow full of earth will reach it. The 1st of November is a good time to lay down vines both in-doors and out, taking them up in a vinery in this latitude, the latter part of March, and out of doors the latter part of April. There is also some misapprehension as to the quantity of artificial heat required by a cold vinery; seldom if ever is any required in the daytime, and fifteen or twenty fires, sometimes less, will carry the vines safely through the season. One

good fire in the evening, and the stove refilled with wood, and ventilation excluded, will secure immunity from frost. Although a cold vinery, where the vines are taken up in April, will frequently do well without any fire heat whatever, yet a central stove and flue is desirable, and removes all anxiety on the subject.

I find syringing the vines not necessary where sufficient evaporation is supplied. When it is done, the evening or some warm, cloudy day is the appropriate time, and not the morning. Any drip followed by hot sunshine will scald and mar the beauty of the foliage.

A grapery such as I have described, if properly built, is good looking enough for any one who does not aim at the fanciful or highly ornamental. It should stand with the ends north and south, the glass catching the morning and evening sun, and will give the proprietor great satisfaction if rightly managed. The rules for so doing, he will find in the manuals on vineries, and experience will teach him their correct application.

[Comparative estimates of the expense of growing native and foreign grapes are very much to be desired; the erection of cold graperies will receive no check in consequence. The increase of vineyards and graperies will be greater than ever before. The native grape, however, in its improved and improving forms, is destined to be the grape for the masses in this country. We shall attempt, in one of our grape articles, to give both sides of this question in a fair and candid manner. If you can build such a house as you describe, complete, for $400, you can do more than we can in New York. We can build one for less money, but not of your materials. Why not put a fixed roof on your house? It is very much better, besides being cheaper. So, too, in other respects you could add to the value of the house without increasing the expense. The aquaria cement we have used largely during the past two years, and consider it far superior to putty for all glass structures. The cost is about the same. We advise you to try it.—Ed.]

PROPAGATION OF PLANTS.

BY PETER HENDERSON, JERSEY CITY, N. J.

As this subject has of late been considerably discussed in various horticultural journals, I am tempted to offer my mite of experience on what seems to me a much more simple matter than most of those who discuss the subject would lead us to suppose.

After many years of extensive practice, I have arrived at the conclusion that cuttings of almost every plant cultivated by the florist or nurseryman will readily and uniformly root, if the proper conditions of TEMPERATURE and MOISTURE are given them. It matters little or nothing how the cutting is made, or what

may be the color or texture of the sand or soil in which it is planted; these have little or nothing to do with the formation of roots. But an absolute condition of *invariable* success is uniformity of temperature and moisture. To attain this uniformity, the structure of the house is of vital importance; and it is owing to the erroneous construction of buildings for this purpose that so many have to deplore their want of success. I will briefly describe the construction of the propagating pit we have in use, and the manner of operations, which will best explain my views on the matter. The pit, which faces north, is 65 feet in length by 8 in width, and 3 feet high at back by 1 in front, the pathway being dug out to give head-room in walking. The front bench is 3 feet wide, walk 2 feet, and back bench 3 feet. All along the front bench run two wooden gutters 9 inches wide by 3 inches deep, the water in which is heated by a small conical boiler connected by two pieces of leaden pipe to the gutters. Three inches above the water in the gutters is placed the slate or flagging, (resting on cross slats of wood,) on which is two inches of sand. By regular firing we keep a temperature *in the sand* from 55 to 75; and as the pit has no other means of heating, except that given out by the sand in the bench, the atmosphere of the house at night is only from 40° to 50°, or 25 degrees less than the "bottom heat." In the daytime, (in order as much as possible to keep up this disparity between the "top" and "bottom" heat,) a little air is given, and shading the glass resorted to, to enable us to keep the temperature of the house down. And here let me remark, that when propagating is attempted in green-houses used for growing plants, (such houses facing south or southeast,) the place usually used for the cuttings is the front table; and it being injurious to the plants to shade the whole house, that part over the cuttings alone is shaded; the consequence is, that the sun, acting on the glass, runs the temperature of the house up, perhaps, to 80, or *above* that of the bottom heat, the cuttings wilt, and the process of rooting is delayed, if not entirely defeated. All gardeners know the difficulty of rooting cuttings as warm weather comes on. When the thermometer marks 80° in the shade fires are laid aside; and if the rooting of cuttings is attempted, the sand or soil in which they are planted will be 10 or 15 degrees *lower* than the atmosphere, or the opposite of the condition required for success.

The advantage possessed by the gutter or tank, as a means of bottom heat, over smoke flues or pipes, is in its giving a uniform moisture, cuttings scarcely ever requiring water after being first put in, and then only to settle the sand about them. Still, when this convenience is not to be had, very good success may be attained by closing in the flue or pipes, regularity in watering, and a rigid adherence to these degrees of temperature.

The propagating pit above described is used for the propagation of all kinds of plants grown by florists, such as Camellias, Dahlias, Roses, Verbenas, Fuchsias, Grape Vines, etc. The time required in rooting cuttings of soft or young wood is from seven to ten days. Last season, during the month of February, we took

three crops of cuttings from it, numbering in the aggregate forty thousand plants, without a loss of more than one per cent. In fact, by this system we are now so confident of success, that only the number of cuttings are put in corresponding with the number of plants wanted, every cutting put in becoming a plant.

In this narrative of our system of propagating, Mr. Editor, I have not attempted to theorize. I give the plain statement of operations as we practice them, thoroughly believing that the want of success in every case must be owing to a deviation from these rules. Ignoring entirely most of the maxims laid down in the books, such as "use a sharp knife," and "cut at a joint," we use scissors mostly in lieu of a knife, and we never look for a joint, unless it happens to come in the way. We are equally skeptical as to the merits of favorite kinds and colors of sands or other compounds used for the purpose. Of this we have reason to be thankful, for a nicety of knowledge in this particular in the head of a scientific (?) propagator may sometimes become an expensive affair.

A friend of mine, a nurseryman from the far west, deeply impressed with our superior horticultural attainments in the Empire City, hired a propagator at a handsome salary, and duly installed him in his green-house department; but, alas! all his hopes were blighted. John failed—signally failed—to strike a single cutting; and on looking about him for the cause, quickly discovered that the fault lay entirely in the sand! but my gullible friend, to leave no stone unturned, freighted at once two tons of silver sand from New York to Illinois! Need I tell the result, or that John was soon returned to where the sand came from?

[Mr. Henderson's "mite," as usual, proves to be "a big thing." A good propagating house, facing north, with a good hot water tank, giving a moist, uniform, and lasting heat, some twenty degrees above the temperature of the house: these things are all consonant with sound philosophy, according to our apprehensions, and success would seem to be fully insured. But what do the "knowing ones" say to Mr. Henderson's method of preparing cuttings and propagating generally? It is manifestly intended for them. We see something in it, but leave them to speak first. What do you say to it, John? We hope you have got that sand out of your eyes now, and can see your way clear.—Ed.]

THE PRONUNCIATION OF HORTICULTURAL NAMES.

BY GEORGE JAQUES, WORCESTER, MASS.

To amateurs of fruits and flowers the pronunciation of horticultural names is among the most familiar of the minor sources of vexation. This petty annoyance, were it of those to which one is only very seldom liable, might well be

passed over in silence; but midsummer weeds need not to be looked after a tithe so often as the scientific and foreign terms from the vocabulary of the favorite pursuit, are liable to occur in ordinary horticultural conversation. An interview between two florists or pomologists casually meeting in the street, may not be of five minutes' duration, and yet one or both will hardly fail to designate some favorite plant by a ludicrous mispronunciation sure to provoke the hearer's mirth or deepen his ignorance, according as his orthoëpical information is more or less extensive than that of the speaker. Unfortunately, the difficulty under consideration is more easily complained of than remedied.

The source of the trouble in regard to the pronunciation of these names lies in the fact that they do not properly form a constituent part of our language. One large family of them—the whole body of botanical terms—is borrowed from two ancient classical tongues, of which the original sounds have been to a great extent lost beyond hope of recovery. It is well known, however, that the finest literature of antiquity was nearly all produced before writers of grammars and dictionaries had scarcely been heard of; certainly before their few meagre treatises, in the absence of the art of printing, could have been sufficiently disseminated to exert any considerable influence. Hence, as well as from other evidences, it is highly probable that the Greek and Latin, as well as other cotemporary languages, were originally written exactly as they were pronounced; that, consequently, in any of their words, the number of syllables must have been the same as the number of vowels or diphthongs. Such a syllabic division, therefore, according to ancient usage, is still adhered to; but, aside from this, the two classical tongues, no longer retaining the sounds which thundered from Demosthenes' lips or lent a charm to Cicero's eloquence, are now pronounced by each modern nation according to the analogies of its own language. Even in modern Greece, where little children, almost without effort, learn what is the acquisition of a lifetime elsewhere, and read intelligibly compositions which their hoary ancestors gave to immortality twenty centuries ago—even there in its native home the sonorous ring of the old vocalization is all gone. Thus it is that, at the present day, the Greek and Latin orthoëpy of Germany is German; of France, French; of Italy, Italian; of Spain, Spanish, etc., etc. That, every where in those countries, there should be a considerable degree of uniformity in the pronunciation of the so-called dead languages, arises not from any effort to conform to some common standard, but rather from the general similarity of the vowel sounds in the languages of Central and Southwestern Europe. Based upon this resemblance, a kind of mongrel system, called the continental style of pronouncing Greek and Latin, has attempted to force itself into English-speaking countries; but, wherever introduced in the schools of England or America, this European, or, more properly, Italian mode of sounding Greek and Latin vowels, has resulted in a ridiculous failure, and, throughout Great Britain and the United States, the best pronunciation of the old classic tongues still continues to be governed by the general laws of

English orthoëpy. The only exception to this usage, in countries where English is the vernacular language, is the almost universal practice of giving the Italian sound to the vowels in singing Latin sacred music, which mostly having originated within the jurisdiction of "the Church," retains to this extent the pronunciation of modern Rome. From what has just been written, it will be apparent that the one real difficulty in pronouncing a botanical term consists in knowing upon which of its syllables to lay the emphatic accent, or stress of voice. Even this difficulty lies within quite narrow limits; for the primary and only important accent of every Greek or Latin word falls either upon the second or third syllable from its end. For example, *my-os-ó-tis* and *clém-a-tis* are Greek, the former being accented on the penult or second syllable, the latter, on the antepenult or third syllable, counting backward from the termination of the words. It is the same with the accentuation of the two Latin names, *spi-ræ-a* and *gla-di-o-lus*, and yet most gardeners—not to say their employers—very easily manage to spoil these four, as well as many other words, by placing the stress of voice upon the wrong letters. Full directions for the correct accentuation of Greek and Latin words may, of course, be found in the grammars of those languages; but it is to be feared that most who are reading these pages would hardly have patience, even if they had the leisure, to explore the uninviting mines where the dry details of ancient prosody are to be sought for. The erroneous pronunciation must be corrected, if at all, by some more direct and more easily available means. Fortunately, in regard to the class of words hitherto considered, the remedy easiest of application is just that which promises to be most generally successful. It is necessary only that editors of horticultural works, and whoever else may publish any thing wherein botanical terms are employed, should cause these terms to be printed with the accents marked, just as they are in some elementary school-books. This very commendable practice, indeed, was introduced many years ago, by the late Mr. Loudon, in his *Gardener's Magazine*, and was afterwards continued by that distinguished writer on rural affairs, during the remainder of his life. In many cases, also, he was able, by using *italics*, to indicate the derivation of Greek and Latin names of modern formation. Thus, his typography of "Wis-tár-*ia*," exhibited not only the pronunciation, but the origin of the term, as in honor of Dr. Wistar. Of American writers, Mr. Hovey, in his *Magazine of Horticulture*, has, more than any other, carefully followed the praiseworthy example thus set by the great author whose voluminous productions have so enriched the horticultural literature of England. This system—with the occasional use of the type from different fonts, and the separation of the syllables of difficult words by hyphens—is so simple and efficacious, that its universal adoption would seem to be a sufficiently adequate remedy for any mispronunciation of whatever is Greek or Latin in the vocabulary of horticulture; since, in regard to the orthoëpy of words of this class, all that is essential is the division of their syllables, the place of the accent, and—perhaps it is well to add—the sounding of *a* final, except in monosyllables, like *ah* slightly

enunciated, *i. e.*, as in *Columbia*, and other English proper names. Beyond this, it is of comparatively trifling importance whether one gives to the vowels an Italian or an English sound; although the latter, where English is vernacular, is certainly the most convenient, and, for aught that can be proved to the contrary, may be, in all other respects, as good a substitute as any other for the true pronunciation now irrecoverably lost.

Terminating at this point, the path leading out of this literary labyrinth would be tolerably smooth and direct; and, with such guidance as is indicated above, no one need blunder far out of the way. But the pronunciation of the modern geographical and personal appellations, by which so many fruits and flowers are designated, is a difficulty of quite another sort from that hitherto under consideration. Of this heterogeneous multitude of names, the elegant pronunciation, pushed to its extreme limits, requires not merely a knowledge of the syllabic division and accentuation of words, but a familiar acquaintance with the orthoëpical systems of some half a dozen living languages; since, of any word whatever, the ultimate standard orthoëpy is admitted to be the general usage of the best educated society in the country where the language to which the word belongs is vernacular.

Of the foreign horticultural names obtruding their unwelcome presence every where from nursery catalogues up to encyclopedias, the greater part are French, many are Dutch, some are German, while a few others come mostly from the Italian, Spanish, or Portuguese. Now, though these six languages may not altogether contain scarcely a larger number of sounds unknown to the English tongue, and therefore unrepresentable by English letters, still the ready mastery of these few un-English sounds—however it may seem to inexperienced persons—is what very few adults ever acquire. Select from the best schools in the United States a hundred pupils most distinguished for their proficiency in modern languages, and not twenty-five out of the whole will be found to have approximated to any thing like the exact vernacular pronunciation of the French *u*, the German *ch*, or the Spanish *j*, not to mention some other foreign vocal articulations which offer less obstinate resistance to our English organs of speech. Indeed, by a little enlargement of our present boundaries, it would not be difficult to cite quite a number of Polish and Bohemian names, in respect to which even a tolerable imitation of the true sounds would baffle the utmost writhings and distortings of any Anglo-Saxon mouth not habituated to these sounds from infancy. And, were the foregoing difficulties smoothed out of the way, there would still remain a fear of pedantry to deter many people from mixing the discordant accent of a foreign word with the familiar tones of an English sentence. Hence, what is the strictly correct pronunciation of these personal and geographical appellations—while popular education remains at its present level—does not seem likely to become at all prevalent among an English-speaking community. But, if the imitation of the vernacular sounds of a foreign word be difficult, the too near approach to the opposite extreme is something quite past all endurance; as may be easily made

apparent by giving a full English pronunciation to each letter of the following names, taken promiscuously from a nursery catalogue: *Fenouillet Gris*, *Glout Morçeau*, *Gros Monstrueux*, *Napoléon d'Hiver*, *Sieulle*, *Swaar*, *Quilletette*, and the like. Nor are these uncouth abominations, as thus Anglicized, merely hideous, but they sometimes assume a very ludicrous air also, as where *Belle et Bonne* is metamorphosed into *Bellybone*, *Louise Réale* into *Lucy Rail*, *Duchesse d'Angoulême* into *Dutch's Danglelimb*, etc., etc. The truth is, these foreignisms in our English speech are—to use a gardener's phrase—in all stages of acclimation. We pronounce *Bordeaux* as in French, *Lyons* as in English, and *Paris* intermediately between the two languages, giving the vernacular sound to the first two letters and Englishing the remaining three. And, as if this irregularity were not sufficiently vexatious, the anomalous condition of these words is not restricted to their orthoëpy merely, but their orthography also undergoes a change in some instances; as, for example, the above cited French *Lyon*, to which the English seem to have added an *s*, on purpose the more effectually to distort its vernacular pronunciation. Thus foreign words are accustomed to domesticate themselves among us, conforming more or less, and in every possible irregular manner, to the analogies of the English tongue. It will not then need to be repeated, that the pronunciation of this entire class of geographical, personal, and commemorative names, is an extremely difficult branch of orthoëpy. The true vernacular pronunciation, indeed, ought not to be required except from a few rarely met with linguists, whose elegant scholarship comprehends an easy command of every un-English sound known to the languages from which the names in question are derived. The best that can be expected of the generality of the people, is something intermediate, which, if less euphonious than the true pronunciation, is still not quite so horrid as that indicated by the natural English sounds of the letters. This compromise system of orthoëpy—as it might be styled—is exhibited as well as it can be, perhaps, in the pronunciation of foreign names, as given in Lippincott's Universal Gazetteer and in the latest edition of Worcester's and of Webster's Dictionary. But, how shall even this low and unsatisfactory standard for pronouncing so many strange names be popularized? It is easy enough to suggest some of the means that might be employed. Let some competent person publish a dictionary of these terms, which shall give not only their approximate orthoëpy, on the above plan, but also their derivation, and perhaps a brief description of the plant, fruit, or flower designated by each. Unquestionably, such a volume would prove a welcome addition to every gentleman's library. The author of any new treatise on fruits or flowers might also insert such a vocabulary, in an abridged form, as an appendix to his work; as was done, to a very limited extent, in *Downing's Fruits, etc., of America*. The names already in use having been thus in some way disposed of, editors of horticultural magazines might easily continue the record, by giving, in the last number of each annual volume, the pronunciation of every *new* term of this class which has been intro-

duced within the year; and this in addition to the representation of the orthoëpy, in connection with the *first* mention, of any of these foreignisms from time to time making their appearance in our horticultural literature. It would even be rendering a grateful service to many a reader, to extend this practice backward to a considerable number of these names, which are none the less unpronounceable because now in common use.

More might be said upon this driest of all themes, but it would seem almost abusive to tax the reader's patience farther; and especially since the subject would hardly claim a place at all in the pages of the HORTICULTURIST, were it not during this dull season when frost and snow seem, in a measure, to exclude from discussion many topics more entertaining and useful. One other idea occurs, which, as a suggestion of charity and decent civility, ought not to be omitted here: it should be enacted as an irrevocable law in the republic of horticulture, that any mispronunciation whatever of any of the aforesaid names shall henceforth be unnoticed and ignored, in so far as not to be made a subject of ridicule; for surely the mortification attendant upon the delivery of one of these orthoëpical abortions may kindly be spared the aggravation of having the misshapen bantling made a victim of heartless derision.

[The subject may to some be dry, but none the less important; for us it possesses a peculiar interest intrinsically, and we must express our admiration of the able yet lucid manner in which Mr. Jaques has treated it. Pure Greek and Latin forms should present comparatively few difficulties; but the others are an abomination. Mr. Jaques, however, has left little to be said on this point. We have no doubt that his suggestions, if carried out, would result in great benefit to the horticultural community. The subject has occupied our thoughts at times, and we shall not forget it.—ED.]

TECOMA JASMINOIDES GRAFTED ON A PIECE OF ROOT OF TECOMA (BIGNONIA) RADICANS, THE COMMON TRUMPET FLOWER.

BY HORTICOLA.

IT being a well-known fact, that the beautiful *Tecoma jasminoides* is, when cultivated in a pot, a very shy bloomer, I was very glad to learn that Mr. Boudiart had, in the *Jardin des Plantes* at Paris, succeeded in grafting it on pieces, five or six inches long, of the Trumpet-flower, which is to be found in nearly every garden. When I bought a plant at Messrs. Parson's establishment, a young, very intelligent German gardener, who had charge of the green and hot-houses, dissuaded the experiment. By looking at the wood of both, he said he could tell at once whether two plants would unite by grafting or not. The T. jasminoides could *not* be grafted on T. radicans.

History is full of the mischief *human authority* has produced both in sacred and in secular affairs; I do not, therefore, believe in any thing that has been or is asserted by *a man*, however great he may be, if his assertion does not show internal evidence in itself. I tried the experiment, and am enjoying now the large and elegant flowers of the T. jasminoides, grafted in March on a piece of the root of T. radicans. The specimen in blossom is seventeen inches high; it commenced blooming more than a month ago.

In March, as stated, I took two pieces of the root of T. radicans, each about six inches long and a quarter of an inch in diameter, and inserted in each a scion of the T. jasminoides. This process was, in some degree, difficult. The root of the T. radicans is very uneven, almost gibbous, so that the scion could not easily be inserted by cleft-grafting. To obviate the difficulty as much as possible, I made a triangular cut in the root, about three quarters of an inch long, and deep enough to receive the scion, cut in the same shape. The wood of the scion was young, but not succulent; it had but one eye, (bud;) part of the only remaining leaf was removed. Both were tied with woolen yarn without any grafting wax, and so deep planted that the bud of the scion was just visible. They were covered with inverted tumblers, shaded, and put in a hot-bed.

One of the scions began to grow almost immediately, the other failed; the root, however, sent forth two young shoots, one of which I removed, the other I cleft-grafted, after it had grown about four inches high, cutting it through just above a leaf. The operation was successful.

On removing a little of the soil, I saw then the cause of the failure. The root was decayed at the top. In order to arrest the progress of the decay, I cut the rotten part away, severing unintentionally the shoot, with the scion growing on it from the root. It continued, however, adhering to the soil, which was caused by a long thin root of its own. I cut it, therefore, from the piece of the old root, with which it was connected, and planted it carefully in a small pot, covering and shading it. It is now a beautiful, vigorous dwarf.

I hope the success of my experiment, so minutely described, will enable many to enjoy the beauty of so elegant a plant as Tecoma jasminoides.

[We have to thank Horticola for the details of the above interesting experiment; it will make Tecoma jasminoides tractable in the hands of many who would otherwise be deprived of the enjoyment of this beautiful plant. We have had the satisfaction of seeing the specimens thus grafted; the union is strong and perfect, and the plants in fine condition. The effect has been to dwarf them, and bring them early into flower.—Ed.]

PARLOR PLANTS.

BY A JERSEY FLORIST.

Mr. Editor,—On reading the communication of your lady contributor, "Frances Mary," in your January number, I feel induced to take the reply to it, in part, out of your hands, believing that, though a professional florist, I can give a few plain directions on the subject, free from all that scientific mystification that your correspondent so much dreads. Instead, however, of treating of one particular plant at a time, as requested, I will class a few that require nearly similar treatment. *Monthly Carnations, Fuchsias, Pelargoniums, Monthly Roses, Variegated, Scented, and Scarlet Geraniums*, form one class of parlor plants, the most beautiful varieties of which (to begin with) can be purchased from the growers at an average of twenty-five cents each.

But here is where the danger begins, the plants from the florist's establishment being grown by being placed on tables covered with sand or saw-dust, and the whole atmosphere of the green-house teeming with moisture; in the direct transition from there to the dry atmosphere of the parlor, the first experience of the purchaser is, that the plants droop, and then, perhaps, lose their leaves. To obviate this, let the purchaser, in selecting the plants, choose healthy plants in *small pots*, that is, *small* in proportion to the size of the plant; and on getting them home, at once "shift" or change them into pots two inches more in diameter than those they are growing in. The process of shifting is simply to invert the plant, tapping the pot gently so as not to break the ball of earth containing the roots, then put about an inch of earth over the bottom of the new pot, place the plant thereon directly in the centre, which will leave a space of one inch all around to be filled in with soil, moderately firm; give a gentle watering with a sprinkling pot, and the process is done. There is a great deal of nonsense written about special kinds of soils for particular varieties of plants; if convenient, get some soil from the heap of the nearest florist; if not, use the soil from your garden borders; it will make but little difference which, if the other conditions are attended to. Above all else, avoid tampering with guano or other fertilizers in the culture of parlor plants. I know that there is a mysterious belief abroad of the power of these useful agents, attributing to them magical effects, approximating almost to that vegetable phenomenon, Jonah's Gourd; but be not tempted; let them alone.

The next thing to be observed is heat and light. The temperature of the room where plants are grown may range from 40° to 60° with fire heat, without material injury; but if a uniform temperature of 50° can be maintained, so much the better. The exposure should be southeast, south, or southwest, so as to obtain the greatest degree of light. The plants should be turned round once a week, to prevent them becoming one-sided by being drawn to the light.

Our rule for watering plants is a very old one, and can not be improved upon;

it is, "water only when the plant is dry, and then give it abundance." To know when a plant is in a condition requiring water, the earth will appear lighter on the surface of the pot; a slight experience will soon enable any one to detect this at a glance. During the cold winter months plants will not require water more than twice a week. In the late spring months, at least once a day in bright weather. Saucers for standing the plants in, should only be used for keeping the flower table or stand clean; they should never be filled with water unless the plants are very vigorous and the weather warm.

To *prevent* the plants from being attacked by green fly, which will prove quickly destructive, steep tobacco in water until it gets to be about the color of ordinary strong tea; then with a syringe or sprinkling pot, sprinkle the leaves under and above; or, if convenient, dip them over head in a tub filled with the liquid, once in two or three weeks. Red spider, another pest to contend with, can best be prevented by frequent syringings or immersions of the plants in water. But where the plants stand on tables covered with moss kept damp, there is likely to be no necessity for such practice, as the evaporation from the moss will prevent the insect from getting a foot-hold, a dry atmosphere being necessary for its existence. Air in cold weather should only be given from the top of the sash, and then not until the thermometer indicates 60° or 70°; in mild weather, when the outside temperature, in the shade, is 60° or 70°, air may be given directly on the plants.

One of the simplest and safest methods of rooting cuttings or slips is what we gardeners call the saucer system. Take a saucer and cover the bottom with sand or soil, (it is of no consequence what kind;) pour in enough water to make a thin mud of it; then cut off slips of *young shoots* from two to four inches long, removing the lower leaves, so that about an inch of the stem can be inserted in the mud; place them just thick enough to have the leaves about touch each other; place the saucers thus filled close to the light, nothing more being required but to keep the soil in the saucers in this half-liquid state, by adding water when necessary, and in from ten to twenty days (according to the temperature of the room) the cuttings will be rooted. This mode of propagating is much practiced by florists whose business is not of sufficient extent to admit of a regular propagating house.

In closing, I may remark that all of the above directions are equally applicable to the treatment of plants in the greenhouse or conservatory, in cases where no regular gardener is kept. Another class of plants suited to the parlor, are Camellias, Azaleas, Gardenias, Cacti, etc.; but as these require somewhat different treatment, they must form the subject of another paper.

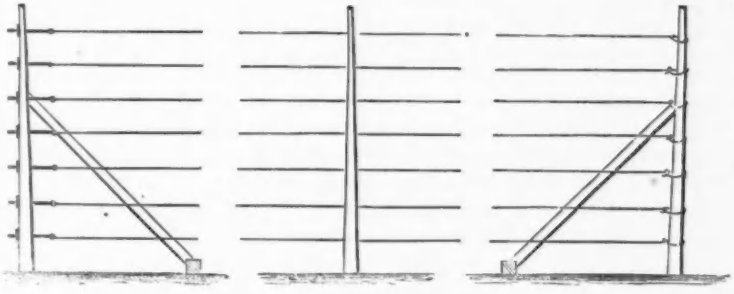
[We are obliged to "A Jersey Florist" for having so promptly responded to Frances Mary. She will accept his article as an evidence that there are some florists who are quite ready to impart the information she so much needs, since

he is a large and well-known grower of plants. We observe that he promises another paper; after that is given, we will take up some other portion of the subject. We would suggest that the Camellia and some similar plants be left till the parlor amateur has acquired a little experience.—Ed.]

GRAPE VINE TRELLIS.

BY F. C. BREHM, WATERLOO, N. Y.

Seeing in the January number of the Horticulturist, in "Hints on Grape Culture," your mode of making a trellis, I will give your subscribers mine, if I do not trespass on your time and patience too much. In the first place, in making my trellis, I get good swamp oak posts, 13 feet long, 5 by 5 inches at the butt, and 5 by 1½ inches at the end or top. These I set in the vineyard where wanted, 3½ to 4 feet deep, 30 feet apart. The two end posts I braced by setting a short post, 4 feet long, 3½ feet in the ground, leaving 6 inches above ground, to which I fasten my brace. This post should be set about 7 or 8 feet from the end post.



For the brace I use 3 by 4 good pine scantling. Wires I use 7 in number, placing them at intervals of 15 inches apart. For the lower or first wire I use No. 9; for the others, No. 10, annealed fence wire. The wires are fastened at one end by boring a hole through the post large enough to admit the wire, and then winding once around the post and fastening; this prevents the wire from slipping or getting displaced, and is better than to wind around alone. The other end is fastened by a bolt 14 inches long, made of ⅜ inch round iron, with a thread cut on it 10 inches long, and a hole or eye punched or drilled in it large enough to admit the wire. This bolt is inserted by boring a hole a trifle larger than the bolt,

through the post, so as to allow it to move freely backward and forward; for if the bolt fits too tight, it will rust and get stuck in the post, so that it can not be moved when it is necessary to tighten or slacken the wires, especially if the posts are oak. I coat the wires with coal tar; this prevents their rusting, and is cheaper and better than paint.

I place my vines 10 feet apart on the trellis, and 8 feet between the rows. In the first year of planting the vines I allow them to grow one shoot or cane; this is cut back the following fall to 3 eyes. These I allow to grow the following spring, training the two lower shoots horizontally each way on the lower wire until they meet midway with those of the next vine. The shoot from the third or upper eye I train up vertically, and which produces fruit the next season. The two horizontal shoots from this season will produce a cane or shoot from each eye, which is trained up vertically on the trellis, and which fills it up completely, forming, as it were, a solid wall of vines. By cutting out every other cane at three eyes, you can renew your wood every year. I have got sixteen native varieties and four foreign, that I am cultivating. I have set out some two and some three years old, which I expect will show fruit this coming season. There is a great interest manifested about here in growing grapes for market; all the people need, to induce them to cultivate this best of all fruits, is practical knowledge; and I must in candor say that, since I have become acquainted with the Horticulturist, I have learned more about grape culture and horticultural matters in general, than in all the works I ever read on that subject. But I must close, as I am already trespassing on your time too much.

[Your trellis is very good and substantial, though we should prefer chestnut posts to oak. Your mode of fastening the wires is excellent, besides being simple and cheap. The sunken post for the lower end of the brace to rest against is to be preferred to a stone, which is sometimes used. We shall be pleased to hear from you again. We shall endeavor to impart to your people just such knowledge as will make them thorough horticulturists.—Ed.]

THE GLADIOLUS.

(*See Frontispiece.*)

BY THE EDITOR.

The Gladiolus is taking a very prominent place as a bedding plant and show flower, and deservedly so. As a cut flower for public exhibitions, there are few that surpass it. It will take its place among the flowers for the million. When examining Mr. Bridgeman's fine collection, we selected a few of the best for a plate; this, unfortunately, was ruined. We present, however, a charming variety

copied from the London *Florist*, and named *Mrs. Reynolds Hole*. It is described as follows: "It is very beautiful, of average size, with all the desirable qualities of form and substance, and is in all respects a perfect painted lady. The color is white, marked with numerous bars and streaks of rosy crimson, the markings being more crowded and confluent toward the ends of the sepaline segment, so as to form richly colored variegated tips. The large upper petaline segment is longer than the sepaline parts, which it resembles in color, but is rather less freely marked; while the two smaller lower petaline divisions, which are rose flaked at the top, are dashed with a rich creamy buff lower down, and, as well as the lowest sepal, have a crimson, feather-like marking up the center. At the mouth of the contracted tubular part there is a rosy star. Our figure, drawn from some of the earlier blooms, does not show the flaked tips of the two small petaline divisions, nor the bold feather-like mark just described, which are present in the specimen from which our notes are drawn up." The variety here described was raised by Mr. Standish, of the Bagshot nursery, a noted grower of Gladioli. Messrs. Bridgeman, Buchanan, and other of our growers have raised a large number of seedlings, and we expect to have from them something new and meritorious.

ON RESTORING PLANTS WHICH HAVE BEEN AFFECTED BY FROST.

BY DANIEL BARKER, HARTFORD, CONN.

During the present season a few remarks on the nature of restoring greenhouse and other tender plants which may be affected by frost, may not be uninteresting to some of the readers of the Horticulturist.

Every practical gardener is aware that the application of cold water upon frozen plants has a tendency to restore them; but from observation I am under the impression that, through ignorance of the nature of applying the water, it is seldom performed with that degree of success of which it is capable. Heat exists in two states, viz., latent and perceptible; when any two substances of different temperatures come in contact with each other, the temperature of the one is raised and that of the other is lowered, until the two substances become equal; and if they are of equal density the temperature will be a mean one; this is, provided that neither of those substances undergo a change from solid to fluid, or from fluid to gaseous. In this case, a great quantity of perceptible heat will be consumed and converted into latent heat; and if the change is from gaseous to fluid, or from fluid to solid, perceptible heat will be produced from the given off of the latent; thus, if equal weights of ice at 32°, and water at 172°, be mixed together, the whole of the ice will be melted, but the temperature of the mixture will be 32°, so that 140 degrees are lost, or converted into latent heat. If a tender plant that

will not bear the frost, a Heliotrope or Pelargonium, for instance, be exposed to an atmosphere of 32°, it will not be injured, but if the temperature sink below that point, say 28°, under ordinary circumstances, when there is the least circulation, the juices of the plant will become frozen, and it will be injured by the application of perceptible heat in its rising from 28° to 32°; but if the temperature, when at 28°, is raised by the freezing, when the act of freezing, by giving off latent heat, raises the temperature to the freezing point, the plant is uninjured.

It follows, therefore, that the application of water should commence before there is any alteration in the temperature of the surrounding atmosphere; that is, in the morning before the sun's rays shine upon the house containing the frozen plants, or before a fire is put on, and continue until the temperature is raised to the freezing point; but if the temperature of a green-house should be sunk to 28°, and a slight syringing of water applied only sufficient to raise the temperature by the congelation of its particles to 30°, a great injury will be sustained, if left to rise afterwards by perceptible heat to 32°, as the agitation which will have taken place among the plants will have more effectually frozen their juices.

The water which is used should be but little, if any, above the freezing point, or as cold as can be procured, so that the temperature of the plant should rise from 28° to 32°, not by the application of a warmer substance so much as the converting of latent into perceptible heat. It is also of very great consequence that the leaves or no part of the plant should be moved when in a frozen state, as the cellular tissue of which they are in a measure composed, being of a very delicate texture, each cellule being filled with watery juice, which becomes frozen, the least bending of that part of the plant would rupture the membranes, which are only (and in many cases not quite) elastic enough to allow of the expansion of the water by freezing; it is, therefore, obvious that, instead of the water being laid on by a heavy rose, it should be done by a very fine syringe like a shower of dew.

I have put the above idea in as condensed a shape as possible; I hope not too much so to be understood.

[A very interesting subject, especially to those who keep plants in rooms. But even in the conservatory and the green-house we are sometimes "caught," as the gardeners term it. We have had Fuchsias, Pelargoniums, Dendrobiums, Cactæ, and similar plants, frozen hard, the thermometer indicating 24°, and have recovered them all by shading the house and applying cold water gently through a very fine "rose." We have known the same thing to be done in a number of cases, and therefore conclude that the application of cold water is a good remedy to recover frozen plants. Great care must be exercised that no sunshine reaches them for some time afterward.—Ed.]

FRUIT TREES IN POTS.

FROM THE GERMAN OF DR. DIEL.

We continue our extract from Dr. Diel's work. It will be found intersting.

"Fruit trees in pots require only a small flower garden, or even only a few boards before the windows; and yet for all that they will give more pomological knowledge in ten years, than a large orchard can possibly give in twenty. I will suppose, for example, that one can find place for only *fifty* pots, whose width at top is *eight inches* and depth *seven inches*, ordinary flower pots, containing about 309 cubic inches of soil. This would be sufficient to become acquainted with 225 varieties in ten years. That is to say, I calculate, by experience, that of fifty trees planted in pots, one half will always bear the second year, and this amounts, deducting the first year of planting, in the following nine years to the above number. Who is there that has not room enough or ground enough to accomplish this. And how small a nursery is sufficient for this purpose? If one procures only thirty proper stacks every fall, on which we can graft those varieties we wish to grow, they may be grafted as soon as the following spring, or budded the next summer; and after two years' growth of the graft they are planted in the pots. If such a tree in the ground is allowed two, or at most three square feet of space, such a nursery—allowing five trees to fail—would scarcely require more than one rod of ground in four years.

"To acquire an extended, reliable, and speedy knowledge of the numerous varieties of fruit, then, without large outlays of money and time, the raising of fruit trees in pots is an urgent necessity. But to discover new varieties it is just as important and advantageous.

"It has long since and often been recommended to select those seedlings from the seed beds which in their growth and leaves show nothing wild or thorny, and to plant them for fruiting without grafting them. That in this way many new varieties have originated, still originate daily, and perhaps all have so originated, is an acknowledged and well-known fact. But as it must not be dreamed that each noble-looking seedling will yield a valuable variety of fruit, the planting of such trees would be a great risk, calculated to do more harm than good, by distributing many inferior kinds.

"To avoid all this, and to know, without losing the seedling, with what sort of fruit any good looking one would have enriched us, pot culture is a means as convenient, easy, and precious, as it is truly entertaining, and ending in no disappointment. In the pot such a tree will bear fruit at latest the third year, and we then know whether it is worthy of propagation or not. In the orchard this would have taken six to ten years.

"It is truly desirable that in large nurseries where seedlings are raised from seed of select varieties, a number of such trial pots should be kept. Thereby many new varieties could be discovered, of which many would be a real enrich

ment to our present stock, and which are lost without this means. How often may inferior cooking fruits have been grafted on a seedling, whose own fruit would have been an ornament on table?

"For those who make pomology their study, pot culture is also a sure way to effect pure artificial crossings, and to raise pure specific seed of select varieties. An artificial crossing is sometimes effected through the wind, but principally by insects. But if the crossing is to be perfect, if the artificial impregnation is to affect the whole nature of the seed, all the anthers in all the blossoms of the tree that is to be impregnated must be cut out before their maturity, and the pistil there by be isolated. * * *

"By pot culture also such kinds of fruit can be raised, tried, and enjoyed, that would either not stand the winter in that locality in the open ground, or whose blossoms might be easily destroyed by late frosts, or else would ripen too late in the fall, to expect fine weather to bring them to perfection. To this class belong principally Peaches, Figs, Almonds, Apricots, and some Plums. A Russian countess assured me, that she cultivated many French fruit trees in pots in Moscow, wintering them in large green-houses.

"Pot culture could also assist greatly in distributing good and rare varieties, A large part of our beloved Germany is yet so far backward in the distribution of select fruit, nay, many neighborhoods known to me are so poor in plantations of the most indifferent kinds of kitchen fruit even, that every encouragement to fruit culture would be compensative. What hidden wealth of the country, what healthy enjoyment, what true economy lies in this culture. A country without fruit is ever poor. * * *

"The Babylonic chaos of names of varieties could also be cleared through pot culture. How great this chaos is, and how it requires the labors of an Augeas to sift this mish-mash, is well known to every amateur, and much more to the professional pomologist. * * *

"But if several pomologists in different parts of Germany would join in an association, and mutually send each other the varieties known in their neighborhood under an acknowledged name, how speedily would each, after previously communicating his catalogue, distribute his wealth, and in turn become possessed of that of others. This exchange would, indeed, be effected the quickest by sending directly such ripe fruit as could be transported; but the pomologist would, in fact, learn little in this way. For, to the system, the study of the tree itself is necessary.

"Pot culture is a speedy and easy means for this end. If, for instance, each member of the association kept only one hundred trees in pots, and considering that these are studied through every three years, what a wealth of knowledge would spring therefrom. How insignificant would be the cost; for each member would have to raise only about forty trees yearly for exchange. To exchange scions would also be a good way, but slow and uncertain, particularly with stone-fruit."

EDITOR'S TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, New York. Packages by Express and City advertisements to 25 Park Row. Exchanges should be addressed to "THE HORTICULTURIST."

AMERICAN POMOLOGICAL SOCIETY.—We learn, through President Wilder, that the 17th of September next has been appointed for the meeting of the American Pomological Society, in Boston. The arrangement has been made in connection with the Massachusetts Horticultural Society, whose exhibition will take place at the same time. A committee has been appointed to make the necessary arrangements, and Mr. Wilder promises to make "all as comfortable as possible," and we have no doubt he will do it. The next session will be one of peculiar interest, owing to the important measures to be brought before it, and every member should go with his opinions well matured. We hope to see the fruit list at least thoroughly "revised and amended." Let every one bear in mind this meeting, and prepare for it.

We hope the variety and value of the articles in our present number will atone in a measure for some shortcomings in our last issue.

"ON HEATHER IN THE UNITED STATES."—Such is the title of a small pamphlet by E. S. Rand, Jr., which possesses a very peculiar interest, since, in our opinion, it is fairly shown that the true Scotch Heather (*Calluna vulgaris*) is found growing indigenously in the United States. The precise location is Tewskbury, Mass. Attention was first called to the subject by Mr. Dawson, who exhibited the plant before the Massachusetts Horticultural Society as "Native Heath." Mr. Rand, as Chairman of the Flower Committee, very naturally had his interest deeply awakened, and, in company with his associates, thoroughly investigated the matter, an account of which we have in the present pamphlet. The Flower Committee was fortunate in having such a gentleman as Mr. Rand for its chairman. The indigenous character of this Heather is endorsed by Prof. Gray, one of our most distinguished and thorough investigators.

TEA LEAD FOR TREES.—Last month we recommended tin or zinc as a preventive against the injury caused by mice, etc. A correspondent sends us the follow-

ing recommendation of *tea lead* for the same purpose, and it seems to us both good and cheap:

"Among all the articles recommended to prevent mice, borers, etc., from injuring trees, I know of nothing better than the thin lead with which tea-chests are lined. I have tried it many a year, and think it a capital remedy. It is so thin it can be readily made of any desired size, and is very easily applied. It should, of course, be fitted loose around the tree.—C."

THE RURAL ANNUAL.—The Annuals this year seem to be better than ever. Mr. Harris, certainly, has not before presented one possessing such a large amount of valuable and interesting matter. Fruits, Flowers, Wines, Grains, Cattle, Tillage, Implements, etc., are treated in a thoroughly practical manner, which gives the Rural Annual a positive value to all whose attention is devoted to any of these subjects. It is published by Joseph Harris, at the office of the *Genesee Farmer*, Rochester, N. Y. The price is 25 cents.

THE RIGHT TALK.—A very intelligent, well-known gardener, in renewing his subscription, uses the following language, which we give as representative of much more to the same effect from others:

"Every practical gardener in the country should have the 'Horticulturist,' no matter how extensive his experience may have been. The world is not stationary; some new discovery every day; hence the necessity, to the practical gardener, of such a publication as yours, to keep him 'posted.' But to the amateur, no matter how small his plot of ground may be, it is indispensable. In it he will find *reliable information* on every subject connected with rural art."

"THE VINEYARD."—This is the title of a new monthly placed on our table. It is to be devoted, according to the prospectus, entirely to the vine. It is published in Jersey City, by Messrs. Peck and Rowe. The editor's name does not appear, but it would not be difficult to guess it from the style. It is a small quarto of eight pages, and is offered at 25 cents a year; a price that will kill either the work or the publishers. We hope they may be able to battle successfully with the times, and spread "vineyards" all over the land.

Transactions of the Essex Agricultural Society for the year 1861. Published by order of the Society.—This Essex is in the State of Massachusetts, though one may read these Transactions from title page to "finis" with scarcely an inkling of the fact. These Transactions, occupying 200 pages, are well printed. Many of the Reports, Statements, and Essays are valuable papers, and worthy of preservation. Transactions like these are store-houses of material for our agricultural history.

Forty-third Annual Report. Transactions of the Hampshire, Franklin, and

Hampden Agricultural Society, for the year 1861.—Here we have another volume of Transactions in which the State is carefully suppressed. This may not be a matter of much moment to those who live in Hampshire, Franklin, and Hampden, but it is to many others who take an interest in such Transactions; for they contain valuable papers that possess more than a local interest.

CATALOGUES, ETC., RECEIVED.

Isaac Pullen, Hightstown, N. J. Fruit Trees in Pots. Peach, Apricot, and Nectarine Trees.

Hoopes & Brother, Cherry Hill Nurseries, West Chester, Pa. Supplementary Catalogue of the Ornamental Department.

Plumb, Willey, & Co., Vine Hill Nurseries, Madison, Wis. Fruit and Ornamental Trees, Evergreens, Vines, Shrubs, Roses, and Plants. 1862.

Godfrey Zimmerman, Pine Hill Nurseries, near Buffalo, N. Y. Descriptive Catalogue of Fruit and Ornamental Trees.

Correspondence.

DR. HOUGHTON AND NATIVE GRAPES.—P. B. MEAD, ESQ.:—I am opposed to any thing like personal controversies, considering them usually unpleasant and useless; but do not like to lie under an unjust accusation. I deny that *my* article at least was written with a design to "deliberately misrepresent" the Dr. The gentleman is unknown to me, and I have no interest in grape or any other culture, except as an amateur.

He says, "stripping the matter of many words," I said thus and so. It was these "many words" that made the trouble. If he had kept to his brief, no one could have objected; but I submit that his address, as a whole, was a tirade against and denunciation of native grapes, rather than a comparative statement of the profits of out and in-door culture; at least so it struck me at the time, and I know I was not alone in so thinking.

I think it probable that a housekeeper who uses a large amount of Strawberries, etc., "would not purchase five pounds of native grapes at six cents;" as, to get any fit to eat, she would have to pay two or three times that price. Why persist in talking about this trash? I for one was speaking of properly cultivated, ripened fruit. If you talk of apples, gardeners do not think you mean wild Crabs. Is the Doctor a homœopathist? He seems to have a dread of large doses of Grape, at any rate. I will eat five pounds per day, as long as he chooses to furnish them; and have two little boys of five and seven, who will be glad of the chance to dispose of the same quantity between them. Yours, BROOKLYN.

[The impression left on the minds of many of the Doctor's hearers certainly was,

that he considered all native grapes unfit to be eaten; hence those accustomed to eating our best cultivated grapes felt aggrieved. If the Philadelphia market is supplied with wild grapes, (which might be inferred from the remarks made,) and the Doctor referred to these, the points of difference would be greatly lessened. Ninety-nine persons out of a hundred will not turn away from our best native grapes when set before them. Of well-known growers and consumers of foreign grapes, we have heard some give a decided preference to our best native varieties; we have heard others, again, give a decided preference to foreign varieties. These differences are matters of taste, which we can understand and appreciate. In view of the almost universal consumption of native grapes, it is a very grave matter indeed to say that our best varieties are unhealthy as articles of food. If they are really so, the fact ought to be known. On this point, we can only repeat what we have before said, that we never feel better than when eating native grapes, freely. To make the testimony complete, we will add, that we feel equally good, if not better, when eating freely of Muscats and Hamburghs. There is one matter, however, back of this, which we do not so well understand, and that is the Doctor's failure with the natives. We shall have to appeal to him to explain this. Something of the late frosts we understand, but this is insufficient.—Ed.]

P. B. Mead, Esq.:—*Dear Sir*,—Will you permit me some few remarks on "Brooklyn's" hints and suggestions about the Brooklyn Horticultural Society? I think, with him, that members who shall not be induced to increase the members of the society except by the commission of 20 per cent., etc., will be a contemptible lot; but I hope there will be only honorable lots. I also, with him, disapprove of the "*wet blankets*;" by all means avoid the cooling treatment; on the contrary, "throw oil on the fire," *when* you shall discover it in the pathway of the Brooklyn Horticultural Society, or of any other localities. Gardeners and the society should be *all one!* Alas! it is now seven or eight years since I expressed this opinion, in the columns of a Philadelphia horticultural paper, and the thing is in the *statu quo* yet. "Brooklyn" is doubly right; it would be much more satisfactory to deal with people who know what they want, than with ignorant persons, who only blame gardeners for their failures. I heartily endorse the remainder of this paragraph, and the following, inclusively to the "free trader," against which I protest. What, B., you are a free-trader, (local free-trader;) you are afraid of free-trade, (probably between Fulton Ferry and Bay Ridge,) and you want *to fold* your skill, improvements, success, in the narrow limits of *Long Island State?* But I am wrong: you would only exclude foreign exhibiters, and curtail the *extra inducements*. It is magnanimous, not to use a different and more expressive adjective.

Foreign exhibiters seem to be your night-mare, dear B.; but will you please tell me, if, since the waking of your society from its first slumber, (you might, perhaps, be ignorant that previous to 1854 the society had slumbered 14 years!

rather a lethargic sleep,) seven years ago, foreign exhibiters had not been induced to *overshadow*, to *frighten away*, etc., your home ones, what would have been your exhibitions? *Yours!* to a certainty, and you would have been satisfied; but do you think visitors to the exhibitions would have been of your opinion? I doubt it. You think it is wrong that gardeners should be averse to playing second fiddle; but you are so yourself, inconsistent man. I suppose gardeners are like Cæsar, they think it is better to be the first in a paltry town than second in Rome. But I perceive I have come to the peroration of your epistle, so allow me to express my opinion too.

I think that, in spite of those *scarecrows* of foreign exhibiters, and of all the tamed local ones; in spite of you and of all the pretty liberal patronage of visitors to the exhibitions, of all localities, *yours* and *ours;* in spite, or rather with the spite of gardeners, the society would not be slumbering, but *dead.*

Gardeners and horticultural societies TO BE ONE! When this honorable Utopia of yours shall be a fact, virtue and vice, truth and falsehood, shall be synonymous. Gardeners, generally speaking, can kill institutions of the kind we are speaking of, as readily as they can kill plants. Mr. B., if your homonym, the Brooklyn Horticultural Society, is alive, it is not the fault of gardeners, or, at least, of a large majority of them; if it is alive, we may thank the exertions of your worthy President, Mr. Degrauw, who, more than once, has had *wet blankets* thrown over his zeal, good intentions, and civilities to all outsiders and others.

ANTHOPHILUS.

P. S.—I ought to add, that, in regard to the rest of B.'s remarks, as well as your comments on Committees, etc., I fully agree with you both; as you say, Mr. Editor, committees are admirable contrivances to do nothing, or to act the part of the *wet blankets.* Committees look well on paper, but when the days of exhibition come nothing is to be seen. Home and foreign exhibiters must do the best they can in exercising their philosophy, not to wish to be *home*, instead of *overshadowing* the horticultural community. A.

As a diversion to the above criticisms, let me ask you if you are acquainted with a plant called *Clivia miniata.* It is one of the very best plants introduced since a good many years. Should I express in words my admiration of this gem I would say it is the *best* new flowering plant we have. I see one in bloom now, which has flowered *three times* in less than a year, (almost a suitable plant for people who want plants that "blow" all the year round.) Without flowers it is a beauty; might rank among ornamental plants; but, with flowers, it is unsurpassed. It flowered for the first time last January or February; gave a scape with 10 flowers; in June following gave another with 11; and last month one with 17 flowers, of a splendid orange scarlet, and every flower being of the size of an Amaryllis; but, to be exact, I give you the dimensions of flowers: almost 5 inches long, with the pedicels and the corolla almost 3 inches across; and add to

that, that it lasts in bloom a considerable time—four or five weeks. It entirely *overshadows* the old and elegant *Clivia nobilis*, but differs as much from it as a Black Hamburgh grape would from a *Charter Oak*, or other *sui generis*. Mr. Andrew Bridgeman might corroborate my eulogium of this plant, he being the only one in New York, to my knowledge, who possesses it, and, as far as known, has developed the same degree of beauty as the one I refer to. ANTHOPHILUS.

[The criticisms of Anthophilus are straightforward. We have already expressed the conviction that the Brooklyn Society is too much indebted to outsiders to be able or willing to give them the cold shoulder now. Where a good feeling prevails, they produce a happy spirit of emulation. In getting up Horticultural exhibitions, we have had a much larger experience than any other person about New York or Brooklyn, and we can not forget our deep obligations to foreign exhibiters; we can say this without in the least impairing our obligations to local ones. Our motto is, that we should all work together for good. In regard to the other matter, we repeat the hope that the society may be able to treble its numbers without going into this particular form of the commission business. We trust that this and all other measures will be so framed as to conduce to the honor and welfare of the society. In regard to slumbering, Anthophilus seems to have confounded another society with that of Brooklyn. We have seen the Clivia miniata referred to, and endorse all you say in praise of it.—ED.]

EDITORS HORTICULTURIST:—Allow me to correct you as to what I said in the memorandum I sent you about the earliness of the Adirondac Grape, *i. e.*, "That it is two weeks earlier than the Northern Muscadine and Hartford Prolific, and from four to six weeks earlier than the Isabella." It was three or four weeks earlier than the Delaware this season. It may be proper to remark, however, that the difference may be less further south, for the reason, that when the cold and wet weather sets in, in this climate, which is usually by the middle of September, such grapes as are not ripe mature very slowly. The Adirondac ripens before cold weather, hence its superiority. As to its quality, I hope to send you samples next September that will satisfy you. Very truly, JOHN W. BAILEY.

Plattsburgh, N. Y.

[Will you please let us know the conditions under which the Adirondac was growing, nature of soil, exposure, etc.?—ED.]

MR. EDITOR,—*Dear Sir*,—The prompt notice which my inquiries received in your October number encourages me to seek information on some other points in which my own limited experience can not assist me. First, as to the use of potash and lime, those important ingredients in the food of fruit trees, if it is true, as has been stated, that, applied *together* in the soil, they become valueless, how does

practical skill meet this difficulty either before or after planting, so as to secure to the plant the full benefit of each substance.

As ashes are difficult to get here, may not potash be used, in some way, to even better advantage, and how can strong ashes be safely applied? In all these interrogatories I refer especially to garden culture. Is not guano valuable, and how should it be used? Lime from the gas-house, too, although dangerous in the hands of novices, is it not a valuable fertilizer?

Supposing the border for a fruit tree to have been prepared to the proper depth, with good surface soil well supplied with vegetable mould and other insoluble substances, as, for instance, lime, bones, etc., may it not then be left to receive, *afterward*, and from time to time, stable manure, potash, etc., in a liquid form?

Again, in regard to manure as it is obtained in this vicinity. The proportion of straw, which is about one bundle to the manure of one or two horses a day, seems to me too large to admit of the addition of the mould of leaves, wood, and turf. These last must be more valuable for fruit trees than straw, but under these circumstances might they not make an excess of vegetable matter, excepting in very stiff clay?

The autumn here has been rather favorable for ripening the grape. The Isabella and Catawba have reached that state popularly known as "ripe," that is, of the berries, two thirds would be of a ripe color, and of these a portion would be quite sweet, while, perhaps, a third of the bunch would be unfit to eat.

I do not believe these varieties ever become in this region more mature than this, not often as much so. Commonly we have frosts in September, which are sometimes followed by a term of pleasant weather. For this after season, our vineyards ought to be prepared by a board coping, one or two feet wide, placed upon the top of the trellises.

On the subject of peach culture, which, with us, is very difficult and uncertain, we hope to hear soon from the HORTICULTURIST.

Very respectfully yours, "A SUBSCRIBER."

Owego, Tioga Co.

[There can be little objection to putting lime and ashes together in a compost heap with muck for *immediate* application: we have often so used them, and with great benefit. We have also applied them separately (at different times) as top dressings, with marked results. We do not, therefore, hesitate to recommend their application in this way, independently of all theory. It is certain that potash and lime are sometimes found in the same soil in a neutral state, just as we would have them. Potash may be mixed with dry muck, road sweepings, old headlands, etc., and applied as a top dressing: it will soon find its way to the roots of plants. We can not recommend the use of guano, unless vegetable matter is very abundant: the results on the growing crop are generally good, but the

after effects are bad; that, at least, is the result of our experience, as well as of a good many others. Gas lime, though dangerous in inexperienced hands, is not without its value: insects usually become very scarce where it is used. It should be applied very sparingly.—In regard to the border for fruit trees, we answer, yes, and with the best results.—The proportion of straw in your manures is not too large to admit of the addition of the mould of leaves, wood, and turf; and there is no danger of your getting an excess of vegetable matter in your soil as long as you can get a little shell lime. Vegetable matter is the great want of nearly all soils in this part of the world: we are never afraid of having too much of it.—We do not believe you can depend upon the Isabella and Catawba for a crop in your region one year in ten; we think you might realize a fair annual crop with some hardy and early ripening kinds. You ought to have a nice little grapery.—We will try not to forget your wants in Peach culture.—Ed.]

Mr. P. B. Mead:—*Dear Sir:* Will you have the goodness, by the magic stroke of your pen, to disperse the *mist-icism* which enclouds the following queries?

What is meant by the term "*regular bearer*," as used in our common fruit books? Does it mean *always* "annual bearer?" or does it *sometimes* refer to the mode of distribution of fruit on the tree? If it is not used with uniform meaning it had better not be used at all. So with regard to the phrases "*uniform bearers*" and others.

Can trees, which bear *alternate* years only, be rendered *annuals* in bearing, with certainty, *permanently*, and with *little cost?* If manuring be one determining cause to this end, when should it be applied? In the bearing or non-bearing year? In the spring of the bearing or fall? In the spring of the non-bearing or *its* fall? When do fruit buds commence forming for a crop?

East New York, Sept. 14th, 1861. S. J. Hutchison.

["Regular bearer," "uniform bearer," and "annual bearer" are convertible terms; that is, they are used to express one and the same thing. If we should answer your next question collectively and dogmatically, we should say, No. If a tree which is very fruitful be judiciously thinned of its fruit, it will the next year, if no extraneous cause intervene, bear a fair crop. In general terms we may say, if a proper system of thinning be adopted, so that a tree is at no time allowed to overbear, a fair crop of fruit may be expected every year. Manuring is indispensable to continued fruitfulness, but is not a "determining cause" of "annual bearing." Fruit buds commence forming, in the sense you seem to have in view, with the first growth in spring, and the process is continued till the fall of the leaf. Your question, however, is by no means clear.—Ed.]

BROOKLYN HORTICULTURAL SOCIETY.

At the meeting held October 29th, Mr. Pardee took the chair. [From this point to the January meeting we shall be compelled to condense very materially our reporter's copy. Our own remarks will not only be greatly condensed, but in some cases omitted entirely. This is the only way in which we can begin square again.] The first hour was devoted to miscellaneous subjects. A lady wished to know how to destroy the Aphis on the roots of her China Asters, etc. Mr. Fuller recommended tobacco, either in solution or by fumigation. The same lady wished to know how to flower Fortune's Yellow Rose. Mr. Weir said the trouble is well-ripened wood; the growth should be strong and well-ripened in the fall; the plant should rest through the winter. Mr. Fisher Howe asked how to get a good growth. Mr. Weir replied, if pruned back much you get wood, but not flowers; plant early and cultivate carefully.

Mr. Fuller asked, do flowers improve by being pinched back? is a grape vine stronger by being pinched? his vines not pinched were twice the diameter and four times the weight of those pinched. Thought it best not to pinch at all till September. Mr. Marin thought October best; roses do better, and the wood ripens better. Mr. Howe thought it might exhaust the root, if not pinched in. Mr. Brophy asked if it was not common among cultivators to strengthen the root by pinching in. Mr. Marin asked if each particular branch has not a particular root. Mr. Fuller said such a theory had been advanced, but it was not so. Mr. Pardee asked Mr. Cavanach if it did not strengthen a plant to cut it back. Mr. Cavanach thought it did. The lady above mentioned also asked if she could keep Geraniums through the winter by hanging them up by the roots. Several gentlemen replied that they had so kept them. Mr. Brophy asked if any one had seen the Rose of Jericho. Mr. Howe replied that he had one, and would bring it. The same lady again asked how flowers and leaves could be preserved so as to retain their colors. Mr. Weir recommended laying them between blotting paper till well dried. Mr. Marin suggested putting the blotting paper between bags of heated sand. Mr. Howe said a German card press, with absorbing paper, would answer for ordinary purposes. Mr. Dunham said he had over 2,000 specimens; put them between blotting paper, and changed till all moisture was absorbed. Mr. Falconer said that autumn leaves varnished with Canada balsam will keep their color. Flowers are best attached with gum tragacanth; if mixed with arsenic, insects will not trouble it.

Another question asked was, how best to keep Fuchsias during the winter in private dwellings. Mr. Cavanach said, in large pots; give plenty of water and light, and moderate heat. Mr. Fuller preferred to keep them dormant in a dry cellar. Mr. Marin kept his in an upper hall, watering once in two or three weeks. Mr. Fuller said the tenderest rose could be kept by covering six inches deep in a dry corner of the garden. Mr. Pardee asked if Roses are generally injured by transplanting. Mr. Fuller thought some improved. It was asked if the frost would hurt roses thus buried. Mr. Fuller said it would not. It was also asked if Verbenas could be kept in frames as half hardy plants. Mr. Burgess said they could, giving air on warm days and shading from sun. A gentleman wanted to know how to keep Dahlias and Tuberoses. Mr. Fuller recommended a hot and dry place for Tuberoses, 70° to 100°; for Dahlias, 40 to 45°. Mr. Burgess kept his Dahlias on the ground, heat from 75° to 80°. Mr. Dunham succeeded well with Dahlias and Tuberoses in a cellar. Mr. Anthony kept his bulbs in newspapers. Mr. Phelps had 50 Tuberoses which did not flower last year nor this. Mr. Weir never had any trouble; his generally flowered too much. [We suggest that he divide with Mr. Phelps.] The lady who asked the above questions offered the Horticulturist for 1860 or 1861 for the best collection of dried plants or flowers arranged in a bouquet; also the *Working Farmer* for 1860 or 1861 for the best collection of pressed flowers or leaves in a book or frame. [How beautifully the true woman shines out here.]

The rest of the evening was devoted to grape culture, the question being the best time for pruning. Mr. Pardee thought February the best time for fruit, and fall for wood. Mr. Fuller said fall pruning made more wood than spring pruning. Mr. Leavitt cut down a large vine last fall, and the growth of wood was enormous. Mr. Fuller recommended him to cut four buds in the fall and two in the spring. Mr. Cavanach had always seen as fine a crop from fall as spring pruning. Mr. Fuller advised to prune always in February; if cuttings are wanted, prune in the fall. Mr. Quin thought Mr. Fuller wrong about pruning in February; had practiced fall pruning ten years. Mr. Burgess asked if vines were hurt by pruning in winter. A negative response was given. Mr. Burgess asked if it hurt a vine to bleed, which elicited nothing definite. Mr. Burgess asked how long a vine would be productive with good treatment. Mr. Fuller replied, 400 years; if well pruned, a vine a hundred years old should be no larger than one ten years old. Mr. Howe had seen a vine at Charleston as large as his body. Mr. Leavitt asked if slaughter house

manure was injurious to the outer border of a vinery. Mr. Weir thought not, if properly composted. Mr. Howe asked the result of planting a dead horse in a border. Mr. Cavanach had seen a tree planted over a dead horse; the tree died; nothing would grow there for several years. Mr. Fuller recommended putting the carcase in a muck bed or with lime. Asked about the Concord dropping. Mr. Quin had no trouble with the Concord, but the Hartford Prolific dropped badly. Mr. Weir said all grapes would drop if too ripe. All seemed to think the Hartford Prolific dropped badly. Mr. Pardee said the Delaware was considered the most difficult of all vines to propagate; had succeeded by placing them in the ground as soon as taken off. Mr. Howe called attention to a basket of flowers from Mrs. John Humphries, very beautifully and tastefully arranged; thought some notice should be taken of Mr. Humphries' death; he was a very worthy man. Offered resolution that a committee be appointed to prepare resolutions expressive of the Society's loss.

The subject selected for next meeting was, "Cuttings and their Propagation." Adjourned for two weeks.

The Society met again November 13th, Mr. Degrauw in the chair.

Mr. Mead opened the meeting by pointing out the merits of the various plants and flowers on the table. [We shall condense all this by saying that Mr. Chamberlain, of Newport, R. I., exhibited a Peach tree, a Grape vine, Strawberries in fruit, two baskets of plants, a Pineapple in fruit, all grown in moss baskets. Mr. Burgess exhibited flowers of Daphne cneorum. Mr. Messenberg exhibited a variety of cut flowers. Mr. Wakeling exhibited water-color paintings of flowers. Mr. Williamson exhibited oil paintings of fruits and flowers. Messrs. Daillédouze and Zeller exhibited seedling Carnations. Mrs. Humphries exhibited a beautiful bouquet made up loosely.]

Five questions were handed to Mr. Mead, relating to the grape vine, all of which were duly answered. Mr. Mead then called on Mr. Fuller to speak on the subject of cuttings. Mr. Fuller said cuttings should be made in the fall before the wood hardens, or they will have to be soaked. Roots will form in a lower temperature than the tops. Cuttings of nearly all hardy plants should be planted in the fall. Currants are the first to lose their leaves. Currant cuttings were made on the 15th of September, and roots are now formed. In making a cutting, cut square across the base of a bud. Soil should be good and rich. Make a trench as deep as the length of the cutting; press the earth around the base; it prevents its drying up; then fill up the trench. Cut out all the eyes except the two top ones, to prevent suckers. In planting a Quince cutting, pack the cutting close at the base; success depends much upon this; leave only one eye out of the ground. Gardeners say Manetti Rose stocks do not grow well out of doors; 95 per cent. of his have grown like the sample shown. In making grape cuttings, the old-fashioned way was two to four feet long; but the best are two eyed cuttings, grown as explained at last meeting. The eyes of the Delaware are so close that we must take three eyes. The Delaware is the hardest wood we have, and if left till spring, becomes very difficult to start. Does not care about the quantity of roots, but quality. Is not particular about all the roots; would prefer to cut them back, and cut the top to correspond. The Delaware is said not to grow well from cuttings out of doors. Mr. Brophy asked if it was not a favorite mode to grow Delaware cuttings in pots. Mr. Fuller, Yes. Mr. Dunham asked if there was any advantage in exposing the roots of the Quince in winter. Mr. Fuller, No, unless you want to freeze the borer. Mr. Dunham had tried it several years, and had four times the fruit. Mr. Mead said he looked first at the quality of roots, and then at the quantity; and then went on to explain how Currants, Mignonnette, Sweet Alyssum, Primulas, Pansies, etc., could be grown from cuttings. He then called on Mr. Chamberlain to explain how he prepared his moss baskets. Mr. Chamberlain replied that the baskets were real things, and not shams, as any body could see. Prepares his baskets of moss, sand, charcoal, and bone dust, chiefly bone dust. The Pineapple had been growing about eighteen months. Mr. Mead asked if he put the plants directly in the baskets. Mr. Chamberlain said, No; first root them in soil. He thought they would last three or four years; had tried them two years. The composition is only added once, but liquid manure is used twice a week. Mr. Howe said he had never seen a finer specimen of Pine either in Europe or the West Indies. Mr. Bridgeman said that placing cuttings near the edge of a pot, is a rule proved by every theory of cultivation. Mr. Brophy asked how to propagate the Buffalo Berry. Mr. Bridgeman advised him to layer it.

It was concluded to continue the subject at the next meeting, and the Society adjourned.

The Society met again on Tuesday, November 27th, Mr. Pardee in the chair.

Mr. Mead said it was gratifying to see so many present, etc. [We omit again with saying that Mr. Burgess exhibited Daphne cneorum, Mrs. Humphries a beautiful basket of flowers, Mr.

Messenberg a collection of cut flowers, and Mr. Quin Easter Beurré pears. There were also photographs of Mr. Chamberlain's baskets exhibited at last meeting. Mr. Barnard exhibited shell marl from New Paltz Landing.] Being called upon, Mr. Barnard said that shell marl is found in nearly every county in the State (N. Y.). Farmers have tried it and are satisfied. It is the remains of shell fish; when first taken out is compacted in masses. This specimen was found in a bed from which three or four feet of muck had been taken; then solid shell marl twelve to fifteen feet deep. The bed is from a third to half an acre, and is now a beautiful pond of fresh water, surrounded by solid rock. Sowed half a meadow with marl; it produced three times as much hay as the other half, manured in the usual way. He thought it would do for Long Island soils. He related other instances of remarkable results. Marl can be found almost every where above the Highlands. Used it on his vines, and ripened his fruit before his neighbors. Will send a barrel to any one to try. Forty bushels to the acre will carry a piece of land five years, with rotation of crops.

Mr. Brophy had used this marl, and spoke very favorably of it. He had used it principally on roses and grape vines.

Mr. Pardee called attention to a book of preserved leaves and flowers, gathered from all parts of the world: thought it a happy idea of preserving mementoes of each place one visits.

Mr. Mead heartily endorsed Mr. Pardee's remarks, and alluded to Mrs. Downing's fine collection of ferns.

The regular subject for discussion then came up, and Mr. Fuller, at the request of Mr. Pardee reviewed his remarks at the last meeting on making cuttings. Thought cuttings of hardy plants should be made in the fall; if the wood gets hard, it must be soaked. Some evergreens grow readily from cuttings; take young wood in the summer, and put it in a hot-bed. Arbor Vitæ he would put in a cold frame, in nearly pure sand; whitewash the glass, and keep the ground from freezing, they will root by spring. Some will root in open ground, if shaded. Thought the Buffalo Berry could be propagated. Mr. Pardee asked how fruit trees were grown from cuttings. Mr. Fuller replied that Plums were best propagated with a mallet-shoot. Had grown Pear cuttings, and had them form fair trees the first year. Had grown some kinds of fruit trees in Wisconsin that he could not grow here. In Georgia Peach cuttings will grow if stuck in slits made in a long shoot, but not in Brooklyn. The soil of Georgia is warm, something like a hot-bed. Mr. Pardee thought it was warm enough there now. Mr. Fuller said that all deciduous plants must be layered in the fall or early in the spring. Layers from hardy plants should be made when the plants are dormant. In layering evergreens we do different; some are twisted and some are tongued. As a general thing nurserymen and gardeners do not know how to make layers. With grape vines, leave every third eye on the layers; let the shoots run up six or eight inches in July; then fill in gradually; bend the vine short to stop the flow of sap. Evergreens like the Norway Spruce are resinous; if wounded in the spring or fall, the wound becomes covered with resin, and will not root. Evergreen cuttings should be made in summer, when the sap is active and thin: cuttings will sometimes stand a year without rooting. Evergreens do not imbibe or perspire, and that is why they keep the verdant condition so long.

Mr. Barnes had experimented with grape cuttings; had succeeded with nearly all except the Delaware. Would layer it in a pot. Most were anxious to get a top, but he thought it best to get a good root.

Mr. Carpenter had had some experience in cuttings; had tried a different method with Evergreens; took laterals in the month of May, planted in the ground, and pressed the earth close. Lost five out of a hundred of the Siberian Arbor Vitæ. Made a large amount of roots. Take the twig close up; put it in the ground with the green part out. Had tried it two seasons with perfect success.

Mr. Bridgeman said, every propagator has a mode of propagating different things. In England a propagator devotes his whole time to the subject. No employer can enter a propagating house. No one can do justice to this subject by standing here every night in the year. It is just as easy to make fourteen plants as one from that twig, (taking up a piece of Arbor Vitæ.) He would just as soon think of budding a tree in a dormant state as layering a plant in a dormant state. He did not find fault with Mr. Fuller's mode, but he had one of his own. Every man has a different mode.

"House Plants" were selected for the next meeting, and the Society adjourned.

The Society met again December 10, 1861, Mr. Degrauw in the chair.

Mr. Mead opened the meeting as usual, with remarks on the plants and flowers on the table. [Mr. Bridgeman exhibited Hyacinths, Tulips, Tuberoses, etc. Mr. Isaac Buchanan exhibited a collection of rare cut flowers. Mrs. Humphries exhibited a basket of flowers.] Mr. Mead called on Mr. Bridgeman for remarks on his bulbs.

Mr. Bridgeman said, there is a want of knowledge why some tuberoses will not flower. He would like the gardeners to say whether the six roots he held in his hand would flower. Called on Mr. Brophy.

Mr. Brophy usually consulted with counsel when he had any thing difficult to decide upon. [He is a lawyer.] Had submitted the case to judges: this bulb will flower, and will produce such a flower as would do credit to the garden of Eden.

Mr. Bridgeman expressed the belief that it would not bloom at all.

At this moment the gas went out, and while the meter was being fixed, Mr. Mead talked about growing plants in rooms. The gas being lighted again, Mr. Bridgeman resumed his remarks. He said the season here is too short to bring forth a tuberose unless the bulb is perfect: a perfect bulb is one in which the flower-stalk rests upon the base; if it starts a quarter of an inch it will not flower another year. This bulb is just showing the flower-stalk; this is perfect, and none will flower but this. The discovery is to be made while the bulb is ripening. These bulbs have flowered, and will not bloom again; they are exhausted. Can judge by the depression on one side where the flower has been. Firm, solid, and not over large bulbs usually flower. Under the most favorable circumstances tuberoses will not always bloom.

Mr. Brophy asked what was meant by the season not being long enough.

Mr. Bridgeman replied, that if the season had been six weeks longer, this bulb would have ripened its flower-stalk. A long season does not always favor the tuberose.

Mr. Brophy asked if the difficulty would be obviated if grown altogether in a green-house.

Mr. Bridgeman said, not altogether successful; the atmosphere is not desirable; the tips of spikes are apt to dampen off. Some bulbs are propagated by flakes, each flake forming one or two bulbs; place flakes in damp moss, and leave there till the bulbs are formed.

It was asked, What is the effect of detaching the small bulbs from the tuberose?

Mr. Bridgeman replied, that the bulbs would be much stronger by leaving them on till perfected. He then explained how the flower is formed in the hyacinth, narcissus, and tulip. He said it required not so hasty a hand to display the tulip; it is composed of circular cones throughout.

Mr. Mead thought he should have given a *smacking* illustration of tulips. (The ladies smiled approvingly.)

Mr. Pardee showed a pretty book of ferns from Mrs. Downing, prepared for children.

Mr. Mead then resumed his remarks on the cultivation of plants in rooms. [These remarks occupied nearly an hour, and we omit them here for reasons already stated. Our readers will have our views on this subject soon. Our object now is to "bring up" these proceedings.—Ed.]

The subject of Parlor Plants was continued over to next meeting.

The next meeting was held January 14, 1862. Mr. Degrauw being ill, Mr. Barnes was placed in the chair.

Mr. Mead opened the meeting by remarks on the objects on the table. [These remarks we omit again; they were chiefly on skeleton leaves. We will add briefly, that Mr. Platt, of Clinton Avenue, exhibited an exceedingly beautiful vase of prepared or skeletonized leaves; Mr. C. B. Miller exhibited paintings of autumnal leaves and groups of flowers very nicely done; Mrs. Humphries exhibited a beautiful bouquet.]

Mr. Fuller.—There is a gentleman here to-night, Mr. Knox, the "Strawberry King," who has a strawberry patch of fifty acres. I should like to hear from him, and why our market is supplied by the small berries of New Jersey.

Mr. Knox.—Mr. Fuller has placed me under embarrassing circumstances. Some friends have injudiciously styled me the "Strawberry King." I do not profess to be even "a Prince." In my opinion "A. Fuller" claim can be made to this title by a member of your Society.

When a toddler, I have often strayed away to the Strawberry patch on my father's farm, and it has always been a love of mine. If you undertake to prove Eve was not tempted by a Strawberry, you will find it a difficult matter; and if by the bright, polished surface of the Triomphe de Gand, I would look charitably upon her.

The soil I prefer is a light clay limestone. This I have, and think it the best. I stir the ground, for a crop of two or three years, not to a great depth, 8 to 10 inches. For producing Strawberries ten or more years, stir from 20 inches to 2 feet, after drainage. I do it with an ordinary plow and lifter, by oxen. Plant in rows 2½ feet apart, and 10 inches apart in the rows. I raise no fruit the first year, but take off the fruit-stems and all runners as fast as they appear. My Strawberries are in specimen, propagating, and fruiting beds. For a few years I stirred the soil with a Strawberry cultivator, but now do not disturb the soil at all; the whole ground becomes a network of fibrous roots, and their little mouths say, as Jeff. Davis says to the North,

"Let us alone." As a protection in the fall, I prefer rye straw thrashed with a flail and bound in bundles. I attach great importance to this covering; frost will destroy much embryo fruit if not protected; it acts as a mulch, and keeps moisture in the ground. I have discarded every implement except the hoe, and use that only for weeds. I speak with considerable caution about varieties. Hovey's Seedling is a very valuable seedling; does well at Boston and Cleveland, but does not do well with me with all my care. Some values deteriorate. Buist's Prize has run out, and is nearly discarded by growers at Pittsburg. We have to suit different tastes; some like tart and others like sweet, and we are trying to educate tastes at Pittsburg, so that they will ask for what they want. It is important to lengthen the season; the ordinary season is three weeks, but by selecting different kinds we can extend the season to five weeks. Baltimore Scarlet, Jenny Lind, and Burr's New Pine are good early Strawberries. Trollope's Victoria, Kitley's Goliath, Nimrod, and Buist's Prize are good later ones. Medium, Brighton Pine, Boston Pine, McAvoy's Superior, Scott's Seedling, Moyamensing, Downer's Prolific, Fillmore, Golden Seeded, British Queen, Vicomtesse Hericart de Thury, Wilson's Albany, and last, but not least, the Triomphe de Gand. Wilson's Albany is certainly a very valuable variety, although our Boston friends condemn it; it improves by years, and is preferred by many. But the Strawberry of all strawberries, the one I would plant if confined to one, on 10 feet or 100 acres, the Strawberry for the eye, the palate, or the pocket, is the Triomphe de Gand. It produces an abundant crop; not so much as the Wilson, but an acre of the Triomphe de Gand is more profitable than an acre of the Wilson. Nearly all the Triomphe de Gand are uniformly large, and they remain so to the end of the season. It is the most beautiful of all Strawberries, and would draw the attention from all others. It throws the Wilson into the shade. It carries well; have sent them to Erie, Cleveland, Cincinnati, Philadelphia, Buffalo, and New York. Had orders from New York for the whole crop. In marketing, my experience is this: Produce a good berry, handle it well, bring it before the people in handsome and attractive order, and they will pay for it; and it will be a long time before the market can be overstocked with fine fruit. In conclusion, I would say that horticultural pursuits bind men more closely and strongly together. If horticulturists had the settlement of our national difficulties, it would not be long before they would beat the swords into plowshares, and spears into pruning hooks, and make the whole country blossom as the Rose.

In answer to questions, he said, Pinch off the berry with the stem on; don't pull them. The Wilson may be made to produce 5 to 600 bushels to an acre. We can average 300 bushels to the acre with the best varieties properly cultivated.

Mr. Mead.—Have you tried any of our Long Island varieties?

Mr. Knox.—Sorry to say I have. In speaking of Long Island varieties, however, I have no reference to Mr. Fuller's Seedlings.

Mr. Fuller.—I am glad Mr. Knox has given us his opinion on the Triomphe de Gand. I would prefer one more acid, but think the Triomphe de Gand the most noble berry ever cultivated; can depend on 300 bushels to the acre. All say in New Jersey the little Strawberry is the most profitable; but I think 25 bushels to the acre is all that they get. I think it ridiculous that New Yorkers should have to get their finest berries from Mr. Knox.

Mr. Knox.—Mr. Hallock has made a box that answers the purpose. It is much less expensive to gather large berries than small ones. My mode of culture met with much objection and general outcry at Cincinnati. By expending $100 I can make one acre pay better than five in the old way. I care nothing for old plans as long as I can invest my money at 100 per cent., and I have good reason to know that mine pays that.

Mr. Mead.—I regret that the "Strawberry Prince" is not here to-night to hear the "Strawberry King." The Triomphe de Gand is the most valuable foreign variety we have. A native Strawberry will be introduced soon, I think, that will fully equal it.

[The remainder of the evening was taken up with brief remarks on Room Plants and an essay on Window Gardening by Mr. Cavanach. This brings our report up to the last meeting. Hereafter we shall go on as usual.—Ed.]

FRUIT-GROWERS' SOCIETY OF WESTERN NEW YORK.

The *Fruit-Growers' Society of Western New York* held its seventh Annual Meeting at the Court-house, in the City of Rochester, on 8th and 9th January, 1862. For an account of its proceedings, somewhat condensed, we are indebted to Secretary Bissell and the *Rural New Yorker*. The meeting was one of the largest ever held. At eleven o'clock A. M. of 8th, the President, E. Moody, Esq., of Lockport, took the chair, and after the usual forms of organiza-

tion, Committees were appointed to nominate officers for 1862, and to report subjects for discussion.

The Committee upon Subjects reported eleven questions, of which the following six were discussed, and five, upon the culture and pruning of the Pear, were passed over for want of time. The Society held four sessions; the attendance was very large, and the discussions upon each subject very interesting and somewhat protracted.

APPLES.

Question 1.—Dwarf Apple-Trees—What is the best stock for Dwarfing the Apple, and what are the comparative merits of Dwarf and Standard Apples?

Question 2.—Select lists for family use—Which are the best 24 varieties? Which of the 24 are the best six summer varieties, two for the table, one for baking, and one for cooking?

Question 3.—Which of the 24 are the best six fall varieties as above?

Question 4.—Which of the 24 are the best twelve winter, to embrace two for stock feeding, two for baking, two for cooking, and ten for the table?

Question 5.—What is the best form of an Apple-Tree? and what is the time for pruning?

GRAPES.

Question 6.—What are the best six varieties of Grapes for family use, and which are the best two for vineyard purposes?

PEARS.

Question 7.—What are the best eight varieties for market, and on what stock should each be cultivated?

Question 8.—What are the best ten varieties for family use, embracing a succession through the year, and on what stock should each be cultivated?

Question 9.—What is the best form of pruning the Dwarf Pear? and what the best for the Standard, and the best season for doing it?

Question 10.—What are the advantages of pinching?

Question 11.—What is the cheapest and best method of cultivating the Pear?

The Committee to nominate officers for 1862 reported the following named gentlemen, who were unanimously elected:

President, Hugh T. Brooks, of Wyoming; *Vice Presidents*, John J. Thomas, of Union Springs; John B. Eaton, of Buffalo; S. N. Holmes, of Syracuse; *Secretary*, C. P. Bissell, of Rochester; *Treasurer*, W. P. Townsend, of Lockport.

Upon motion of H. E. Hooker, Esq., a vote was unanimously passed, thanking C. P. Bissell for the very able manner in which he has performed the duties of Secretary of this Society for the past four years, and the vote ordered to be entered upon the records.

Upon motion of William Brown Smith, of Syracuse, twenty-five dollars were voted to C. P. Bissell for his services for the past year. This sum Mr. Bissell peremptorily declined. Upon motion of D. W. Beadle, of St. Catharines, Canada, it was voted to expend this twenty-five dollars in some suitable testimonial to C. P. Bissell, with a suitable inscription, expressing the kind regards of this Society. Mr. Bissell positively refused to accept the office of Secretary unless the Society reconsidered these votes.

Mr. Smith then moved to reconsider his motion, and to withdraw said resolution, and instead thereof moved that the Society create Mr. Bissell a member for life, and present to him a parchment certificate of the fact, as a testimonial of our appreciation for his past services. Mr. Bissell thanked Mr. Smith for these resolutions, saying, "By this resolution you will honor me more than by any other course you could possibly take, thereby doing credit to the disinterestedness of my motives in laboring for the good of fruit-growing, and to my love for the society of gentlemen like yourselves."

The Committee upon Fruits, which was D. W. Beadle, of Canada, George Moody, of Lockport, and J. Salter, of Rochester, reported fifty-eight varieties of Pears, fifty-one of Apples, and several of Grapes, &c., upon exhibition.

The discussions were opened with

DWARF APPLES.

I.—*Dwarf Apple-Trees—What is the best stock for Dwarfing the Apple, and what are the comparative merits of Dwarf and Standard Apples?*

Mr. Barry, being called upon, said he could not say any thing new. The subject seemed to

be pretty well understood. Two stocks are used for dwarfing the apple—the Paradise and the Doucain. The Paradise makes a very small tree, suitable for gardens; the Doucain is a tree of larger growth, suitable for pyramids or half-standards, and might be of advantage in the West, and other places, for orcharding. In answer to an inquiry, Mr. B. said that dwarfs probably would not be as long-lived as standards, because the stocks are raised from cuttings. The fruit of the Doucain is small and sweet—that of the Paradise very small and insignificant. Had never known stocks of either grown from seed. The cuttings root freely. Had seen trees on Doucain stocks twenty years old apparently as healthy as ever, and likely to live a score of years longer. On this stock trees do not bear much earlier than on their own roots—some five or six years after planting. On Paradise stock trees bear very young. On the former, trees should be set out about twelve feet apart, and on the latter from four to six feet. Mr. B. knew of no successful experiments with the Doucain stock in orcharding, and could not say that it possesses any advantages over the free stocks for general market purposes.

SECOND SESSION.—BEST SIX SUMMER APPLES.

II.—*Select lists for family use—Which are the best 24 varieties? The six best summer varieties, two for the table, one for baking, and one for cooking?*

Mr. BARRY said the Early Harvest is the most popular summer apple in America. It is cultivated in every State in the Union as far south as the apple is cultivated. Had seen it at Memphis, and further south, as good as at the North.

W. P. TOWNSEND, of Lockport, spoke favorably of the Primate, Early Joe, Early Harvest, and Red Astrachan, and the Sweet Bough for baking.

Mr. BEADLE, of St. Catharines, C. W., said in Canada the Sweet Bough is the most popular sweet apple, and the Red Astrachan excellent for cooking and eating.

H. E. HOOKER recommended the Sweet Bough for baking, and the Early Harvest, Early Joe, Primate, and Red Astrachan for eating and cooking.

Mr. ELLWANGER said the Summer Rose is one of the best summer apples. The Early Joe is a delicious eating apple, but is very apt to be imperfect and spotted. The Early Harvest is good for the table, as all know; the Sweet Bough for baking, and the Red Astrachan for cooking.

Mr. SMITH, of Syracuse, recommended the Early Harvest, Red Astrachan, and Sweet Bough for cooking, and the Primate and Summer Rose for the table.

Mr. BARRY considered all the summer apples that had been named excellent, and well worthy of general culture, except, perhaps, the Early Joe, which is often very spotted, and the tree a poor grower. The Early Strawberry is a beautiful, excellent apple, of a peculiar and fine aroma, and the tree a good grower. An excellent market apple. Would name it as one of our best summer apples. It remains longer in perfection than almost any other summer apple, ripening gradually and remaining on the tree longer than most apples. Tree an erect grower, with slender branches.

Dr. SYLVESTER, of Lyons, thought very highly of the Early Strawberry. The tree is a handsome and erect grower. Fruit ripens gradually for five weeks. For family use this peculiarity is valuable, but objectionable for market, as it is less trouble to pick all the fruit of a variety at once. Would place it among the four best. Mr. S. would want the Early Harvest for all purposes, Sweet Bough for baking, Red Astrachan for cooking, and Early Strawberry, Summer Rose, and Primate for table.

E. MOODY, of Lockport, thought the Primate the best early apple. Ripe nearly as early as the Early Harvest, and does not spot, while the Early Harvest is subject to it, and Mr. M. thought may have to be discarded, for the difficulty is increasing, and varieties subject to it should be rejected. The Primate is entirely free, and also the Red Astrachan. The Sweet Bough is a good apple, and bears shipping well. Would like to retain the Early Joe, although it does spot. Some gentlemen present thought the Primate tree rather tender, and Mr. M. said, in reply to inquiries, that it is as hardy as a Greening, and very much like it in growth.

The question, as originally reported by the committee, was for the four best summer apples for the dessert, and at this stage of the discussion, as many considered the number too small to give a good supply for family use during the season, at the suggestion of L. B. LANGWORTHY and H. E. HOOKER, it was increased to six.

Mr. BARRY thought the Golden Sweet a very desirable summer sweet apple, though perhaps rather late to be called a summer apple. It is very productive, the tree a rapid grower, and bears early; an excellent market apple.

Mr. MOODY agreed with the last speaker in his opinion of the Golden Sweet. It is an excel-

lent baking apple, but not as good for the table as the Sweet Bough, and will not bear carriage as well. Most of the Sweet Boughs of Niagara county are purchased for the Boston market.

Mr. Fish inquired if there were not two varieties known as Golden Sweet.

H. N. Langworthy knew of two, one a greenish apple and worthless; but the true Golden Sweet is an excellent apple, and next to the Baldwin in productiveness.

Mr. Barry said a line had been handed him, requesting his opinion of the Jeffries apple—a beautiful, striped, very superior dessert apple from Pennsylvania. It is an excellent summer apple, and the gentleman who called his attention to it should favor the meeting with his opinion.

Mr. Vick said he was too much occupied in reporting the proceedings to take part in the discussions, but he was anxious this fine apple should be brought to the notice of the meeting. It is excellent and beautiful.

Mr. Hooker had the Jeffries in bearing the last three years. It is an excellent table apple, and the finest acquisition we have had in many years.

Mr. Hoag, of Lockport, had received scions from Pennsylvania, which had fruited, and he considered the Jeffries a very superior dessert apple.

The President, H. T. Brooks, Esq., thought the growing of apples for feeding pigs an important matter for farmers. Pork is cheap, and it is necessary that cheap food should be used in making it.

Mr. Beadle said a neighbor fed sweet apples to pigs in great quantities, first using the Golden Sweet and later the Tolman Sweet.

L. B. Langworthy considered good marketable apples too valuable to feed to pigs. Let the pigs have the run of the orchard, and pick up all the wormy, fallen fruit; but apples that are fit to sell are worth more than they would be made into pork.

H. N. Langworthy said he would sum up his opinion of the Golden Sweet in a few words: it is good for feeding pigs, not very good to eat, good to bake, and good to sell before half ripe. Dealers will buy it, and it is considered pretty good before it hardly begins to ripen.

AUTUMN APPLES.

III.—*Which are the best six fall varieties?*

Mr. Hooker considered the Munson Sweet a superb sweet apple, productive, and good either for baking or the table.

Mr. Ellwanger said Munson Sweet is the finest autumn sweet apple we have, with a bright red cheek, which makes it attractive. Excellent for baking.

Mr. Smith found the Munson Sweet a very profitable apple. Tree hardy and productive, and the fruit excellent. The Fall Jenneting good, and the Colvert a handsome apple and an enormous bearer, always fair, and an excellent cooking apple. The Rambo and St. Lawrence are fine for late fall.

Mr. Barry.—Jersey Sweet ranks among the best sweet apples of its season.

Mr. Sylvester had cultivated Munson Sweet a few years, and liked it. The Pound Sweet is the best autumn sweet apple. It is more juicy than any other sweet apple. For feeding there is nothing like it.

Mr. Smith inquired if Jersey Sweet is generally fair. It is an excellent apple where it can be grown, but for the last few years it had grown spotted and gnarly with him.

Mr. Beadle said Jersey Sweet is an excellent apple in Canada, the fruit fair, and the tree productive. Ripe in October. Succeeds in almost all soils.

Mr. Fish thought Jersey Sweet one of the very best of fall apples. Very tender and rich.

Mr. Moody said Jersey Sweet, as known by him, is unworthy of cultivation, knotty and worthless. If they happened to get a fair one it was very good.

H. N. Langworthy agreed with Mr. Moody. It is an unprofitable apple, knotty, and falls from the tree.

Mr. Hoag had seen the Jersey Sweet excellent in Niagara county, on clay soils.

Mr. Ellwanger found the Jersey Sweet to be a fine apple, but very often small and spotted. Spoke well of Duchesse of Oldenburg, Gravenstein, Twenty Ounce, and Pound Royal for fall apples; and the Munson Sweet for baking. In answer to a question, Mr. E. stated that the Gravenstein resembles the Colvert, yellowish-white ground, striped with red.

(*To be continued.*)

ADIRONDAC GRAPE.

(*Engraved for the* HORTICULTURIST.)